PANZER GENERAL™

THE OFFICIAL STRATEGY GUIDE

PRIMA'S SECRETS OF THE GAMES

ED DILLE
ALAN EMRICH

SSI

ISBN 1-55958-727-X

Panzer General

The Official Strategy Guide

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The Official Strategy Guide

Ed Dille
Alan Emrich

PRIMA
Prima Publishing
P.O. Box 1260BK
Rocklin, CA 95677-1260

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ISBN: 1-55958-727-X
Library of Congress Catalog Card Number: 94-68406
Printed in the United States of America
95 96 97 98 CWO 10 9 8 7 6 5 4 3 2 1

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Dedication

This book is dedicated to Heinz Guderian, creator of the blitzkrieg. He was a true Panzer General.

> *"Perhaps it is unique in military history for one man to influence the design of a weapon, see to training the men who use it, help plan an offensive, and then lead his forces in battle. Heinz Guderian did just that."*
>
> —Len Deighton, *Blitzkrieg,* 1979

Acknowledgments

The authors wish to acknowledge the tireless efforts of Rick Martinez and Paul Murray of SSI, both of whom were invaluable in explaining the intricacies of their game design. Additionally, Joel Billings, Caryn Mical, and April Souza of SSI, without whom the opportunity to strategize this wonderful game would have been lost. At Prima, we must recognize once again the superlative skills of Becky Freeman, the project editor; Kim Larson, who processed all of the art you see herein; Paula M. Lee, for her flexibility and resourcefulness in the midst of a chaotic fall publishing schedule; and all the other key Prima personnel who support our efforts as authors. At Katz/Kunkel/Worley Inc., we would like to thank Andrew Swann, and also congratulate him on the new arrival in his house. Finally, our gratitude to the National Archives and Records Administration for allowing us to include all of the historical photographs you see in this work.

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Huntington, WV

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How to Use this Book

"Our security is not a matter of weapons alone. The arm that wields them must be strong, the eye that guides them clear, the will that directs them indomitable."

—Franklin D. Roosevelt, message to Congress, May 16, 1940

Panzer General, as you can see, is two words. Panzer is German for armor, or what we more colloquially call tanks. According to FDR's quote, the word panzer would be placed on the "weapons alone" side of his statement.

A general, of course, is a leader of soldiers. In the game Panzer General, that's you. You must provide the strong arm, the clear eye, and the indomitable will to secure victory. Like a combat general, you must prove yourself a cunning, practical leader each and every day on the battlefield. You must never lose sight of your objectives and always bear in mind the costs in men and material for both victory and defeat.

This book helps focus and sharpen your skills as a general. Here we analyze the game's campaigns, scenarios, units, terrain, maneuvers, and battles you will encounter. We show you how to make the best of every conceivable situation that might arise in a well-fought game of Panzer General and help you to earn your stars.

Although this book serves as a complete reference for Panzer General devotees, we know that less experienced computer commanders will learn a great deal as well. Certainly, we cover the basics of strategy and tactics, but like the game itself, we do so in a fast-moving, friendly style that quickly "ramps up" beginners to the level of competent commanders without ever losing that sense of fun and excitement that permeates every game of Panzer General.

We Expect a Trained Recruit

Naturally, the authors assume that you have a copy of Strategic Simulations' Panzer General game, have installed it, and configured the sound so that it works with your computer. In other words, you're up and running without the need of any technical support. Furthermore, we assume that you're using a mouse to play the game. Most of the things we tell you to do are by way of mouse input, so if you're a "keyboard commander," you have to learn those keys on your own. All mouse clicks in this book are clicks of the left mouse button unless otherwise indicated. Generally, the right mouse button is used like the Esc key to back up one level in the orders-giving process.

Beyond all this, we must also assume that you have a familiarity with the game. We're not running a boot camp here. By now, you should have waded through its tutorial and have pushed the pieces around on a few scenarios beyond that—maybe even started a campaign game and perused the better part of the manual. The manual, by the way, is excellent in some ways and slightly lacking in others. We emphasize the important points and elaborate on them with additional information that you find only in this strategy guide. To get the most out of this book, therefore, you are required to be familiar already with Panzer General and its components.

Die Rolls

Many formulae presented in this book rely on random numbers being generated within a certain range. In layman's language, the computer is rolling a die to generate these random numbers. When a computer needs to generate a random number from 1 to 6, it rolls a normal 6-sided die, which we abbreviate in this book as "d6." To generate a random number from 1 to 100, the computer rolls a d100, and so on. This convention is important to understand while you're reading this book's formulae.

General's Jargon

Among the useful information in this book is a glossary we want to point out at the beginning. If you are not familiar with the military and war-gaming lexicon used in this book, look at the glossary to keep us communicating with you. Knowing about such terms as hexes, fighter-bombers, and AFVs comes in useful in the chapters ahead.

Your Marching Orders

Armed with this knowledge, we're now ready to give you your marching orders and send you ahead to the next chapter. In it, we offer you an overview of Panzer General. We have broken down the larger parts of the game and given them a broad examination, focusing particularly on its important strategic options, such as weather and supply, that you can toggle on or off.

Move along, cadet. You're off now to OCS (officer candidates' school) and are on your way to earning that first star on your epaulet.

The Strategic Outlook

An Overview of Panzer General

"A Tsar once remarked that two of the best generals in his army were named January and February. If he had lived to see the era of mechanized war, he might have commented that October and March were pretty impressive fellows too, for in October the first torrential winter rains reduce the roads to bottomless quagmires, while the Spring thaw had precisely the same effect."

—Bryan Perrett, *A History of Blitzkrieg,* 1983

Let us begin by putting *Panzer General* in perspective. No matter which way you look at it, *Panzer General* is a wargame. Although it is obviously a game about war, there is more to it than that. It is also a simulation. That means that this game attempts to simulate (not duplicate) actual (and a few hypothetical) campaigns and battles of the Second World War in Europe. This makes it akin to a silicon time machine, in which the player steps into the boots of the generals and marshals who conducted these historical campaigns. Conflict simulations, or wargames, are designed both as enjoyable games that present fascinating challenges and as tools whereby players can learn the lessons of strategy that history holds locked in her grasp.

German troops parade through Warsaw, Poland. PK Hugo Iger, September 1939 *(courtesy of the National Archives and Records Administration).*

Since wargames have been around a long time (although the current commercial crop of wargames only sprang up circa 1958 with the publication of a board game called *Tactics*), it is not surprising that a complete hobby has formed around them. War-gamers, as a rule, not only play these games (solitaire, in pairs, in groups, by mail, by modem, and even at organized wargame conventions!) but also tend to enjoy a relaxing study of the history that surrounds them.

For those of you to whom war-gaming is a new concept, some additional clarification is in order. First and foremost, you must accept the fact that no two wargames are alike, even if they cover exactly the same time period, forces, or even a specific battle. By altering the map scale, the unit size of individual pieces, fire and movement rules, logistic or weather considerations, or any combinations thereof, war-game designers can create fresh and unique perspectives for players to explore. Within this framework, however, it is possible to classify any given game within three broad categories: grand strategic, strategic (also called operational level) and tactical.

For its own part in the war-gaming hobby, *Panzer General* is an operational-level game. This defines the scale of the game as one that features units (military formations and game pieces) that range in size from battalions to divisions. Although the units in *Panzer General* have no specified scale, the authors estimate them to vary in strength somewhere among regiments, brigades, and divisions—depending on which scenario is being played. Operational-level games also feature turns that approximate between six hours and two weeks of real time. In *Panzer General*, the majority of the scenarios are built around one turn equating to a single day. Finally, operational-level wargames usually have a map scale between 10 kilometers (km) and 50 kilometers per square, or hex. *Panzer General* falls within these guidelines as well.

Because of the scope of the area of maneuver, the focus of operational-level wargames is strategy, not tactics. To easily understand the difference between these two concepts, consider the following examples. Strategists concern themselves with the logistics of moving entire armies across a theater of operations, seizing key objectives like cities, railheads, and bridge crossings. In this sense, they are "big picture" players, developing schemes of maneuver for entire divisions and annotating them on the map with huge, sweeping arrows resembling those you might have seen on CNN military briefings during the

Gulf War. Their job, in a nutshell, is to dictate and coordinate where units must go and what they must do when they get there (for example, seek and destroy an enemy unit, conduct reconnaissance, seize an objective, or defend a position).

Tactical-level commanders, on the other hand, must implement this scheme of maneuver all the way down to individual companies, platoons, and squads. They must figure out how they will accomplish this mission given their available resources. This includes planning the optimum route of travel, marching order, formations for individual units, and so forth.

For the record, a number of fine tactical-level wargames also cover World War II combat in Europe. These games cover small-unit actions where hills and villages are the primary objectives and each turn represents only seconds or minutes of real time. These types of games include SSI's *Tanks!* and HPS Simulations' *Tigers on the Prowl.*

Additionally, as mentioned, some grand strategic-level wargames cover multiple theaters of operations, in which the player attempts to guide the outcome of the entire war. Units in these games represent the corps, armies, fleets, and air forces that swept across the continent, seizing strategic objectives. Grand strategic-level games often feature some economic and diplomatic aspects of war as well. Each turn in this type of wargame might simulate from one month to as much as one year or more of real time. These types of games include SSI's award-winning *Clash of Steel* or Avalon Hill's *Third Reich.*

Scenarios

In *Panzer General*, you may elect to play a single scenario, such as conducting the operations around the German attack on Warsaw in 1939 (Scenario 2), or conduct an entire campaign. When you're playing one of the 38 scenarios provided, you may opt to play either, neither, or both sides. Alternatively, you may play with another human player by either sharing the same computer and taking your respective turns in front of the monitor (known as "hot seating") or conducting a game via electronic mail (see Chapter 8, "Matching Wits with Other Panzer Generals"). Note, however, that the German player always goes first in each game turn regardless of which scenario you choose to play.

Figure 1-1. The Scenario Selection screen allows you to jump in at any point in the war, but you cannot continue forward at the end of that battle, as in the campaign game.

Each scenario represents a different operation of the war during a particular time period. Some scenarios share the same map, but they cover operations over that terrain under varying circumstances. For example, four different scenarios utilize the Moscow map. One hypothesizes an early attack after greater initial German success in their invasion of Russia; Moscow 1941 simulates the historical campaign; and the 1942 and 1943 scenarios both hypothesize subsequent German drives on the Russian capitol following greater successes elsewhere on the Russian front during those years. Although each scenario alters the forces available and their starting experience levels, they all center around a German drive on Moscow.

Figure 1-2. German troops in Russia, 1941 *(courtesy of the National Archives and Records Administration).*

Campaign Games

In addition to scenarios, five different campaigns are provided: 1939, Poland; 1941, North Africa; 1941, Barbarossa (the German invasion of Russia); 1943 Italy/Sicily—the German defense of the West; and 1943 Kharkov—the final German offensives in Russia. Each campaign must be played solitaire and as the German side. The goals are to improve the Germans' fortunes during the war, thereby altering the historical outcome, and to enhance your own prestige as a Panzer General. The latter, which is naturally based on your success in the field, allows you to build more experienced and capable units for subsequent engagements.

Figure 1-3. *Panzer General* contains five distinct campaigns. When you choose one of them from this menu, you embark on a series of branching missions. The path you take through the campaign is determined by your success, or failure, on the field of battle.

A campaign is conducted as a series of scenarios with your success or failure in each one determining which scenario you will play next and which sort of handicap, if any, you have at its beginning. Chapter 7, "Winning Battles," provides a flow chart of scenario progression, and also discusses the consequences of victory or defeat for the specific scenario, and the inherent effect each will have on a campaign.

The key concept about campaign games is that you are marshaling two types of units. The most important type represents your "core" land and air

units. If they survive the scenario you're currently playing, they follow you to the next one, forming the backbone of your forces in the future. The other type of units are the scenario-specific auxiliary forces. Regardless of their fate in the current scenario, they are not available to you for future operations. Auxiliary units are strictly limited to the scenario that provided them!

Core units are symbolized by having their strengths shown in black beneath their icons. Auxiliary units have white numbers. During a campaign game, there are limits on the number of core and auxiliary units you may purchase with your Prestige Points. A newly purchased unit is automatically a core unit if A) you are allowed to purchase at least one more and B) it is German. (Other nationalities cannot join your core forces and therefore are automatically relegated to auxiliary status when purchased). If you have no core unit purchases available, any newly purchased unit (even German ones!) automatically become auxiliary units that disappear at the conclusion of the scenario.

What Am I Doing Here?

Each scenario, whether it's played separately or as part of a campaign game, begins with an introduction that sets the stage for the battle ahead. Generally, one side is on the offensive while the other is attempting to frustrate that attack. Players on the defensive should not prohibit themselves from launching some well-chosen attacks of their own! The key dictum to remember here is to lure the aggressor to attack your strength and counterattack where he is weakest.

Generally, the deciding criteria in every battle of *Panzer General* is who holds the objective cities and how long it took to capture all of them. On the strategic map, objectives are shown as the solid green or white hexes; white means that they're currently under friendly control. On the tactical map, control of the given objective is depicted by a flag of the owner's nationality bordered with a glowing gold rectangle, to distinguish them from other cities and air base control flags.

In addition to controlling objectives, one other important modifier defines the level of victory of defeat in a scenario of *Panzer General*: time. On the offensive, seizing all the objectives well ahead of schedule improves the level of victory that is obtained. During a campaign game, you must capture all the targeted cities sever-

al turns before the allotted limit in order to obtain a major, or decisive, victory. Victory is always good, but decisive victories are necessary if you want to avoid a long campaign of attrition. Also, without decisive victories at key branching points in the game, you cannot access some scenarios, such as Operation Sealion.

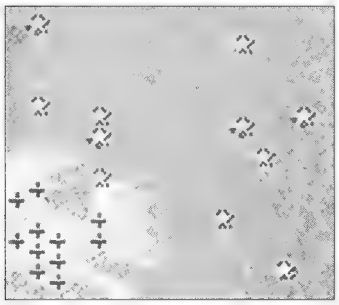


Figure 1-4.
Objective hexes are shaded on the strategic map: white for friendly control and green for enemy control.

One other consideration is casualties. Although casualties, either inflicted or suffered, have no effect when the level of victory for a scenario is determined, keeping losses down and troop quality high during a campaign game can have a profound effect on your long-term prospects during the war. Also, during a campaign game, leftover Prestige Points (see Chapter 6, "Matters of Prestige") are transferred to your resource pool for use in the next scenario.

When you're playing a single-scenario game, however, these real-world concerns are irrelevant. You can sacrifice entire divisions in suicidal attacks and blow every last Prestige Point you earn without consequence, provided you capture the objective cities, of course. Consequently, purists definitely prefer the realistic leadership and management concerns imposed by the campaign structure.

Optional Rules

Because *Panzer General* is a game, it has rules. Some are hard-wired into the program and cannot be modified. Without them, there would be no game. Others, however, are optional. In war-gaming, these optional rules add extra realism (which war-gamers refer to as "chrome") while also adding a measure of extra complexity (also referred to as "dirt"). Chrome is good, but dirt can be either good or bad, depending on how deeply you like to micromanage certain aspects of command.

Some games are so "dirty" that you might have to spend days, or even weeks, mastering all the permutations imbedded in the quagmire of the rule books. Fortunately, *Panzer General* does not require this level of mastery. The game is designed to be as close to a "click and play" wargame as you can get. Nevertheless, with some of the optional rule sets in effect, you can still enjoy

a good deal of realism without having the hassle of having to memorize details the program manages for you. The better you understand how these factors are managed, however, the more effective you are as a field commander.

In *Panzer General*, the three main game-play options include weather, supply, and intelligence.

Weather

For once, you can do more than just talk about the weather. In *Panzer General*, you can *do* something about it. The game provides a toggle button on the Options menu that shows a rain cloud. Pressing the button changes the weather-option status between on and off. When the weather is off, weather plays no role in the game. The default condition of clear skies and dry ground conditions remains in effect throughout the game.

You should opt to play with the weather option turned on—it was an important consideration in many of the scenarios provided. Two weather conditions might change during each turn: the atmosphere and the ground conditions. After some rain, therefore, the clouds might part, providing clear skies, but the ground will still be wet for a while, leaving the soldiers to slog it out through the mud until the ground dries out following a turn or more of clear weather. Each type of prevailing weather condition has a specific effect on play, as detailed in Chapter 3, "Operational Analysis."

Weather Forecasting

The long-range probabilities for changes in the weather are also presented in Chapter 3. For a short-term meteorological report, check out the Weather Report button on the main menu. It lists today's weather conditions and tomorrow's forecast. As in real life, however, the weather forecast for tomorrow is not always accurate!

It is important to note that clear weather favors the attacker and that inclement weather usually works to the advantage of the defender. After all, it's difficult to go anywhere when it is raining and the ground is soaked with mud. A good general always keeps the weather in mind when planning a battle—remembering which side the weather is favoring and what practical limitations it is placing on both sides' forces, if any.

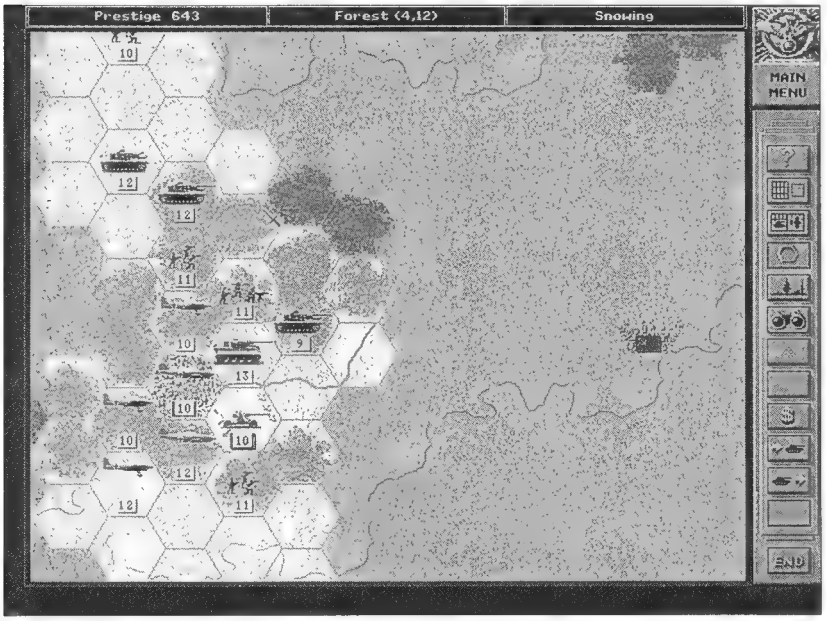


Figure 1-5. The snowy landscape of Moscow in November. Rain and (to a lesser extent) snow can alter the dynamics of a given scenario considerably.

Supply

Logistical considerations in *Panzer General*, are mercifully simple. By pressing the button on the Options menu with the three oil drums on it, you can toggle the supply rules on or off. When the button is switched off, both sides' vehicle units (ships, planes, tanks, etc.) can move at their full rate every turn (that is, they never run out of gas), and every unit can fire at every opportunity (as in the movies, no one ever runs out of bullets). The Current Information screen always registers units as having their maximum fuel and ammunition available.

Panzer General is a much more interesting game, however, with the supply option turned on. Only then do units expend fuel in a realistic manner for moving across the map (see Chapter 3 for a complete study of terrain effects) and expend one point of ammunition for each attack or defense they conduct.

Effects of Being Out of Supply

Vehicle units (tanks, planes, ships, etc.) without fuel cannot move until they are refueled. Furthermore, they fight with only half their unsuppressed strength points. This includes infantry units with organic transport vehicles since they

can abandon their vehicles only when using air transport. Units without ammunition cannot initiate attacks or fire back when they are attacked by enemy units.

How To Resupply Units

How you resupply a unit varies by its type. Ships are fully resupplied if they begin their turn in a friendly port. Air units that begin their turn on or adjacent to a friendly air base are likewise resupplied. Ground units can be anywhere, but they receive fewer supplies than their entitlement when they're adjacent to enemy units. Ground units also can seldom be fully supplied in a single turn (see Chapter 3 for details about resupply).

Intelligence

The game also has options for limiting the intelligence that both sides receive about the other's forces. By restricting information about enemy maneuvers, a more realistic "fog of war" is maintained. Real-world generals do not enjoy perfect intelligence (or Saddam Hussein would not be in power today), so why should you?

The Hidden Units Option

This important option determines whether enemy units are always visible or only when they are within the spotting range of a friendly unit. When enemy units are always visible, *Panzer General* takes on the distinct feel of a board game, and much of its value as a simulation disappears. When the Hidden Unit option is on (and we recommend that you use it), you cease to be omniscient. As such, if you fail to properly use your reconnaissance resources (destroyers and torpedo boats at sea, recon armored car units on land, and airplanes), the enemy might be preparing a surprise for you that could have nasty, and irrevocable, consequences!

Conversely, by blocking the enemy's capability to ascertain your unit dispositions, you can be planning a surprise of your own. (Chapter 2, "The Philosophy of Command," discusses the principles of war, including matters of surprise and security.)

IMPORTANT: The computer player does not cheat by looking at your forces when the Hidden Unit option is on. It must probe to discover your hidden forces by using the same techniques you must use to find its units.

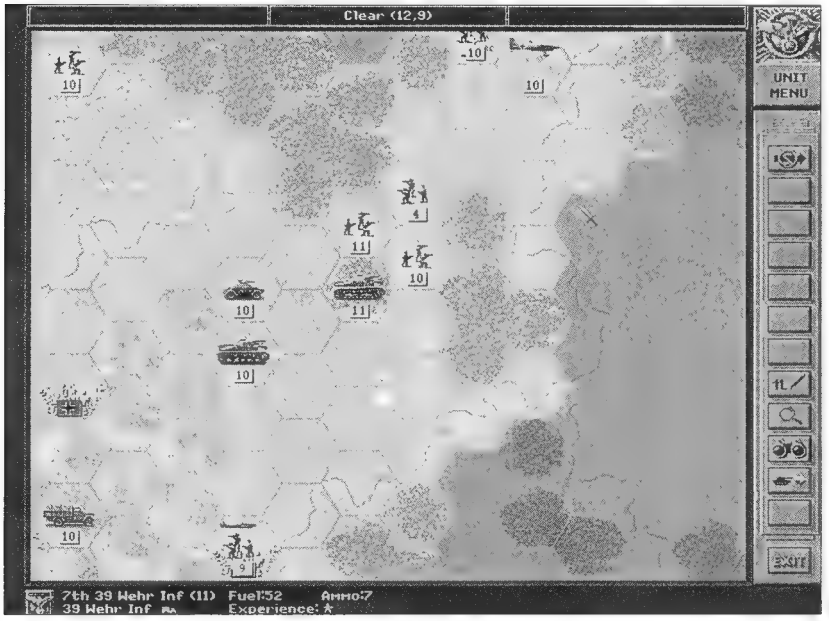


Figure 1-6. Brightly shaded hexes are those that are or have been sighted by friendly units during this turn.

The spotting ranges for units vary by unit type and the atmospheric weather condition currently in effect (see Chapter 3, "Operational Analysis"). The brighter hexes on the main map are those that have been spotted by friendly units during this turn, and the dimly lit hexes are those in which enemy units might be lurking, unbeknownst to you. Units can always see into an adjacent hex. Enemy units not within the spotting range of a friendly unit do not appear on the map and, therefore, cannot be fired on by ranged weapons (such as artillery and naval bombardment).

The Hidden Movement Option

A button on the Options menu has a picture of a computer monitor with "AI" printed on its screen. This toggle allows you to watch all enemy units move. Please note that, if the Hidden Units option is on, you won't see these enemy units any longer after their movement is complete unless they end their turn within the spotting range of your forces.

When you're exercising this option to watch the enemy units perform their movement (you always get to see them conduct their attacks on your units), another toggle appears at the bottom of the Options menu. This one turns the Speed Move feature on or off, as indicated by the button's speeding

tank icon. With the Speed Move turned off, the enemy units move slowly so that you can study their moves more carefully.

With it turned on, you have some idea of where the enemy is going, but it is more difficult to remember their exact locations than playing with the Hidden Units option on. Using this option also speeds up game play considerably.

Honestly, though, watching enemy units move while playing with the Hidden Units option on is tantamount to cheating (after all, you know about where the enemy is by watching its moves). To play *Panzer General* with the most realism (the way we recommend), the Hidden Units option should be turned on, as should the Hide Computer Movement option. A good general (like the one you are becoming) can overcome limited intelligence about the enemy's troop dispositions through proper scouting.

Difficulty Levels

The final crucial element for planning your game is setting the difficulty level. This setting is active regardless of whether you are combatting the computer or another human player, although the effect on each is different. For a full discussion of head-to-head play with human opponents, who present their own unique challenges, see Chapter 8, "Matching Wits with Other Panzer Generals."

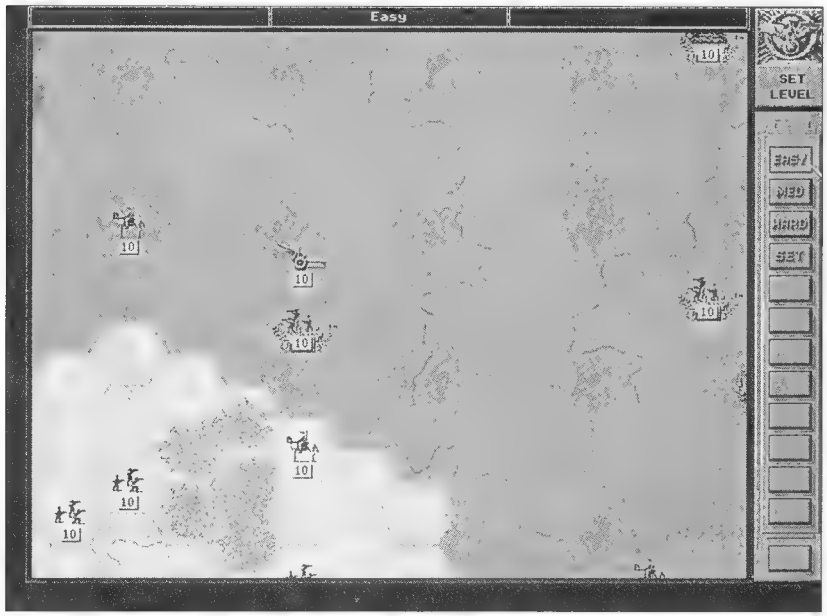


Figure 1-7. Novice players can get their boots muddy but not get bloodied too badly by selecting the Easy difficulty setting.

Adjusting the difficulty level when you're playing against the computer player consists of modifying as many as three different elements: the starting experience levels of their new unit purchases, the Prestige Point allotments they receive during a scenario to simulate reinforcements, and toggling on or off the superior computer play AI (artificial intelligence) module.

You can choose from four difficulty-level buttons: Easy, Medium, Hard, and Custom. Table 1-1 shows what happens when you choose one of the first three "preset" difficulty levels. Choosing the Custom level allows you to manipulate the individual game-difficulty characteristics to your own satisfaction.

Table 1-1

Game Difficulty Level

Difficulty	Good AI?	Enemy Experience	Enemy Prestige
Easy	No	-1	-2
Medium	Yes	0	0
Hard	Yes	+1	+2

Note: The Hard level of difficulty was used in the development of all strategies presented in this book.

Experience Handicapping

When you handicap a player's experience, you alter the number of experience levels with which his *newly* purchased units enter the game. This handicap does *not* affect the experience level of starting units (they are considered "already purchased"), nor does it alter the experience level of normal and elite replacements during the game. Handicapping affects only unit formations purchased after play begins. (Chapter 5, "Combat and Tactics: When Units Collide," more thoroughly covers the subject of troop experience.)

A +1, +2, or +3 handicap *increases* that player's newly purchased units' experience level by 1, 2, or 3 gold stars, respectively (giving them +100, 200, or 300 more experience points when they're formed). Conversely, a -1, -2, or -3 handicap *decreases* the starting experience of newly purchased units by those levels. A 0 handicap means that no adjustment is made.

Please note that these modifiers adjust *only* the scenario's *predefined* unit experience levels for new purchases. For example, newly purchased Russian

units in a late-1944 scenario might normally be formed with 200 experience points (two experience levels) under their belts. Slapping them with a -2 or -3 modifier would have them enter the game with 0 experience (no unit enters the game at a negative experience-point level!). Conversely, giving them a +3 handicap would make newly purchased units in that scenario enter the map as ultra-elite, five-star monsters!

Prestige Handicapping

Handicapping Prestige Points is a little trickier to explain (see Chapter 6, "Matters of Prestige," for details about the ins and outs of Prestige Points). Encoded in every scenario is a predetermined "dump" of Prestige Points that a side will get during specific turns or when specific events occur. These Prestige Points represent the commitment of additional effort to that operation and have been carefully adjusted to create play balance for each scenario.

When you adjust the handicap for Prestige Points, you are really inserting a multiplier for Prestige Point dumps. These multipliers are shown in Table 1-2.

Figure 1-8. Adolph Hitler and Benito Mussolini in Munich, Germany, ca. June 1940 *(courtesy of the National Archives and Records Administration).*

Table 1-2

Multipliers for Prestige Point Dumps

Handicap level	-3	-2	-1	0	+1	+2	+3
PP multiplier	.25	.5	.75	1	1.25	1.5	1.75

For example, if your opponent was slated to get a 200 Prestige Point dump this turn, and his Prestige Point handicap level was set to +1, he would get 125 percent of 200 Prestige Points, or 250. Conversely, if his Prestige Point handicap was set to -2, he would receive only 50 percent of that allotment, which, in this example, would be 100 Prestige Points.

IMPORTANT: When you are playing against the computer, you do not receive any of these Prestige Point dumps. The computer player does (for play balance purposes), but you don't. If you play head-to-head with another human player, however, there are some occasions were you will receive Prestige Point dumps, although you are not notified of their arrival (see Chapter 6, "Matters of Prestige" for more details). Therefore, it behooves you to keep a sharp eye on your Prestige Point level at all times when you play head-to-head with another human player.

The Computer Player's AI Module

With this module toggle, you can opt for either the full artificial intelligence (AI) model or you can "dumb it down." The difference is that, when it's dumbed down, the AI doesn't play as good a game. Specifically, it is not savvy about properly replacing depleted units, nor does it do well in pulling them out of harm's way. When the game is configured in this way, the computer player has a greater propensity to "fight to the death" with its forces when it is wiser to replace losses (and preserve the experience that troops gain in combat). Instead, it wastes a great deal of Prestige Points by building new, inexperienced units from scratch (which is good for you, but not as challenging).

The Road Ahead

Now that you have an overview of *Panzer General*, what it is, what you're trying to do, and what your options are, we can examine its components in more

detail. In the next chapter, we begin by indoctrinating you in some of the fundamental principles of war. These principles are illustrated with game examples where appropriate. Your course of instruction continues with a detailed briefing on terrain, weather, and other battlefield considerations. Then you are indoctrinated in the basic building block of the military: the unit. Having a firm grasp of how each unit varies by type and what their various ratings mean is crucial for employing them properly in maneuver and battle. Turn the page now, and we will embark on an illustrious military career together.

2

The Philosophy of Command

"All wars should be governed by certain principles, for every war should have a definite object and be conducted according to the rules of the art."

—Napoleon Bonaparte, *Maxim V*

This chapter focuses on strategy and how to apply the principles of war in Panzer General. Strategy covers the larger and broader elements of planning. Conversely, the smaller and more detailed aspects of military planning are called "tactics" (and are examined primarily in Chapter 5, "Combat and Tactics: When Units Collide").

In the words of Carl von Clausewitz, the great military thinker of the 19th century, "Tactics is the theory of the use of military forces in combat. Strategy is the theory of the use of combats for the object of the war." In terms of strategy, over the ages nine generally accepted *principles of war* have evolved. A successful military operation, whether strategic or tactical in nature, relies on them for its success.

Conference of the Big Three at Yalta makes final plans for the defeat of Germany: Prime Minister Winston S. Churchill, President Franklin D. Roosevelt, and Premier Josef Stalin *(courtesy of the National Archives and Records Administration).*

The Nine Principles of War

It shouldn't surprise you that sound military principles should be applied to formulate a winning game plan in *Panzer General*. Everyone knows that those who remain focused on their goals are far more likely to achieve them, particularly veteran military officers. Those who lose their focus or, worse, who do not have clear goals, cannot hope to achieve consistent victories on the battlefield. *Vis consili expers mole ruit sua* ("Force without good sense falls by its own weight"), said Horace in his Odes.

War is madness, but there is a method to it. This method to winning has been probed and analyzed throughout millennia of historical study. For you, however, we have summed up the heart of what constitutes good strategic thinking and put it all in *Panzer General* terms. Allow us to introduce you to these widely regarded nine principles of war.

> *"The new inventions of the last 20 years seem to threaten a great revolution in army organization, armament and tactics. Strategy alone will remain unaltered, with its principles the same as under the Scipios and Ceasars, Frederick and Napoleon, since they are independent of the nature of arms and the organization of the troops."*
>
> —Antoine Henri de Jomini, Précis of *The Art of War*, 1837

Objective

Every military operation must be directed toward a decisive, obtainable goal. That goal is the *objective*. In *Panzer General*, these goals are determined on a per-scenario basis. For the player on the strategic offensive (the one who has the primary burden of seizing the other player's territory), the primary objective in every scenario is to capture the specified objective hexes on the map. Capturing most (if not all) the objective hexes is this player's foremost goal. Two things always stand in the way of these goals: the enemy and time. You have no control over the former, but you must learn to manage the latter to ensure success.

For the player on the strategic offensive, time is of the essence. Although capturing all the objectives required to achieve the scenario's victory conditions is usually possible within the time parameters of the game, if they are captured quickly enough, a minor victory can become a major victory.

Conversely, the player on the strategic defensive must hang on. That player's objective is to make sure that the game is played out until the last turn by denying the player on the strategic offensive all the objectives he needs. Furthermore, the more objectives you hold when time expires, the greater your level of victory on the strategic defensive.

Although fulfilling the victory conditions of a scenario is the final destination, you should set many other intermediate goals along the way. These secondary objectives are your stepping stones along the hazardous path to victory. Obtaining your intermediate goals ultimately makes your final goal obtainable. A secondary objective can be anything, but, for ease of reference, we use only the following well-defined terrain features.

Urban Centers

Urban hexes, particularly those between your forces and the victory condition objectives you are trying to control by the end of the scenario, are usually the most important secondary objectives. Their control is so important that the game even thoughtfully provides ownership flags right on the tactical map.

The owner of each of these urban hexes enjoys a small (but significant) per-turn income of Prestige Points, plus a major gain or loss in prestige when they change hands. (These points can be gained and lost only once for each player per scenario) See Chapter 6, "Matters of Prestige," for the details about Prestige Points.

Urban hexes, and those adjoining them, are also the only places where newly constructed units can be placed on the map. When it comes time to upgrade land units during a scenario (that is, to re-equip the unit with newer weapon types), this function must be performed in an urban hex as well.

Cities and ports (coastal cities) are also prime defensive terrain, particularly when held by well-entrenched infantry or anti-tank units. This is because defending these installations resets both sides' combat initiatives to a maximum rating of 1, making troop experience and entrenchment levels the vital factor in a city fight (see Chapters 4 and 5 for more detail).

Regardless of the historical precedent, all coastal cities in *Panzer General* are equipped with full port facilities. This means that naval units can repair as many as two strength points per turn when they begin that turn in a port. More importantly, however, it also means that land units can embark on amphibious assaults from any port. Please note, however, that stacking restrictions preclude ships and land units from occupying the port hex at the same

time. Finally, land units in cities and ports have a much easier time being resupplied during adverse conditions such as being adjacent to enemy units or caught in bad weather (see Chapter 3, "Operational Analysis").

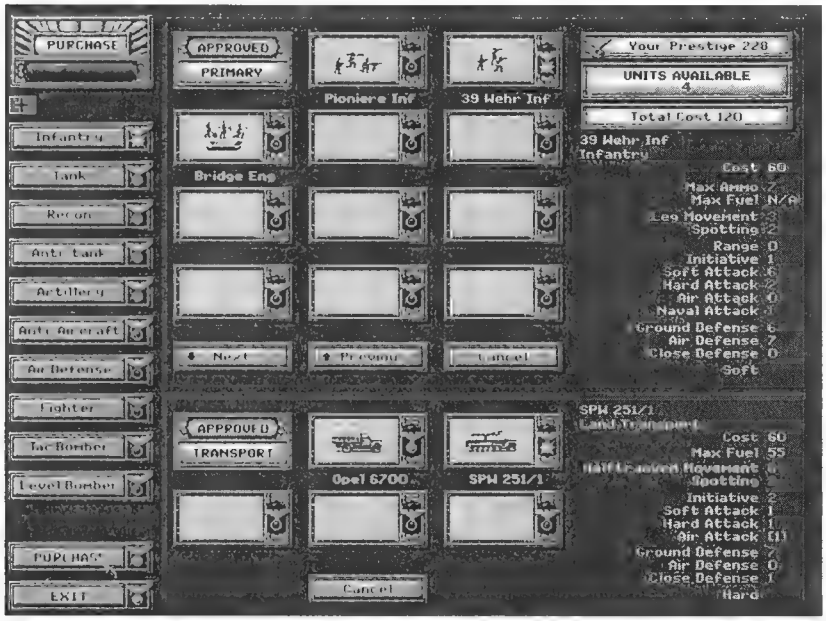


Figure 2-1. When you purchase new units during the course of a scenario, it is often a good idea to bring them on the board at the most forward urban hex you control, thereby minimizing their travel time to the front.

From a pure momentum standpoint, therefore, these urban installations are vital secondary objectives. If you are pressed for time during a scenario in which you bear the burden of attack, it might not always be wise to go out of your way to conquer every town on the map, but controlling urban areas both measures progress and keeps front-line units more easily supported with new units, equipment upgrades, supplies, and replacements.

Airfields

Like urban installations, airfields are also so important that their control is denoted by ownership flags on the tactical map. They also provide a small per turn income of Prestige Points plus a major gain or loss in prestige when they change hands.

Newly purchased air units appear on or adjacent to airfields. This is also where planes go to refuel (see Chapter 3). When it comes time to take replacements or upgrade air units during a scenario, they must begin their turn *on* an airfield (or aircraft carrier's) hex.

Although airfields aren't good defensive terrain, land units in airfield

hexes have a much easier time being resupplied during adverse conditions such as being adjacent to enemy units or caught in bad weather (see Chapter 3). Airfields are also where air transports originate and where non-paratroop units moving via air transport must land (again, see Chapter 3).

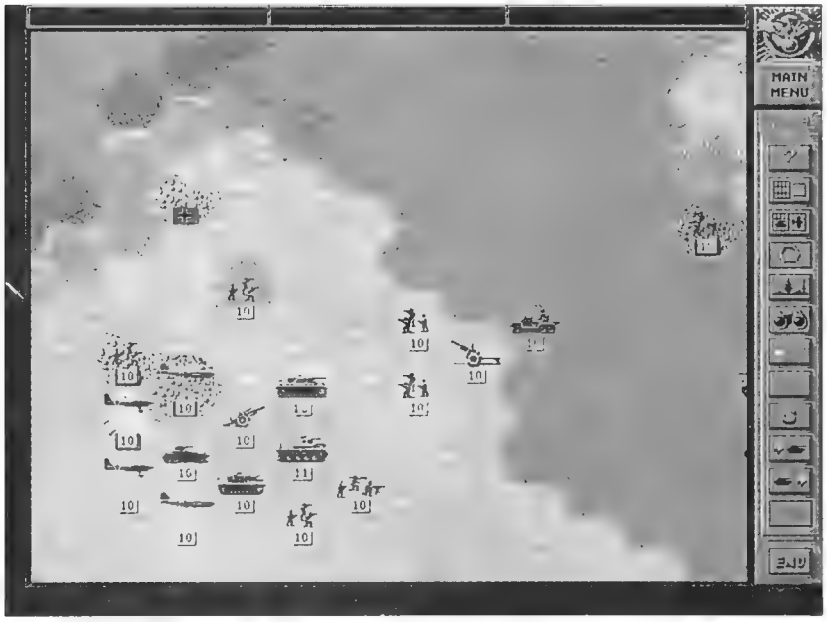


Figure 2-2. Air units can upgrade or repair battle damage only when they're on the airfield hex, not adjacent to it.

Like urban installations, the control of airfields symbolizes the momentum on the battlefield. Controlling airfields can keep your air units over the battlefield longer (because they need less fuel to get back and forth from the nearest airfield), and, when more of them are owned, they make it easier to expeditiously replace air unit strength points lost in battle. (Air battles are often bloody affairs.)

Choke Points and Maneuver

A good general must learn to read a map and see all the potentially rewarding objectives. In addition to those marked with a control flag in *Panzer General*, certain geographic features are important when you're conducting a military operation. When you're conducting a defensive operation, of course, good defensive terrain, such as cities, forests, bocage, and fortification hexes, are what you should look for.

More vital to a player conducting offensive operations, however, are avenues of maneuver. Often, between an offensive player's forces and his objectives are certain choke points on the map that must either be traversed or maneuvered around. A clever defender is prepared to meet the enemy at these passes. It is here that defenders can gain a localized military advantage and inflict disproportionate losses on enemy forces that must traverse these choke points.

Bridges

The first type of choke point to look for on a map is where rivers are bridged. Crossing rivers without a bridge requires a unit to stop on a river square so that it can move off that square (on either side of the river) during the following turn. The catch is that units defending on river squares do so at a distinct disadvantage (see Chapter 5, "Combat and Tactics: When Units Collide").

Figure 2-3. First U.S. Army men and equipment pour across the Remagen Bridge; two knocked-out jeeps are in the foreground *(courtesy of the National Archives and Records Administration).*

Even when an offensive player has bridging engineers to aid in crossing a river, it is still a risky proposition because even bridging engineers are vulnerable targets when they're sitting on a river square!

Bridges are often found near urban installations, giving the defender an ideal position from which to guard the bridges. The key to such strongly held

enemy positions is to bypass them (or, for the defender, to defend their flanks so that they cannot be easily bypassed). Bludgeoning a city across a river is a good way for the attacker to take serious casualties, so an alternative route across the river must be found. Be creative, but if it comes down to a forced river crossing, be sure that you know how to make a proper prepared assault, which we teach you how to do in Chapter 5, "Combat and Tactics: When Units Collide."

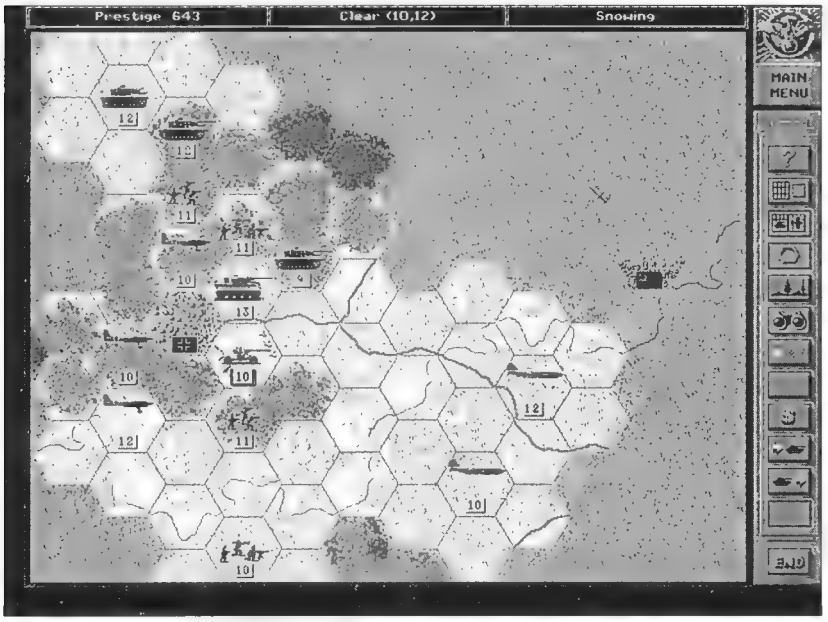


Figure 2-4. Bridge crossings are almost always defended. If possible, use airpower to scout out the opposing riverbank before committing ground units to the bridge.

Passes

Certain scenarios, most notably the desert warfare in North Africa, feature terrain that is difficult, if not impossible, for most land units to traverse. Nevertheless, you will find that rapid movement can be achieved after key passes in the terrain are controlled. The trouble with passes is that they are usually well-defended by enemy troops (often dug in and with artillery support). Like other choke points, passes must either be bludgeoned through or maneuvered around. Unlike a river obstacle, however, there are seldom good alternatives to crossing a particular path.

Road Junctions

Where the terrain is dense, such as in the Ardennes scenario or through the bocage during Cobra, roads cut a swath of hexes through difficult terrain.

These swaths create ideal places for defenders to take a stand, thus easily delaying attackers coming down these crucial roads. Like rivers, narrow road passes do not create an insurmountable obstacle to outflank; it's just that it takes an attacker time to redeploy his forces to bypass a well-defended road. Often, all a defender has to do to win is buy time, so a player whose attacks must be funneled down these important roads must either strike with overwhelming force or be prepared to maneuver around these types of obstacles (always being mindful of the time it takes to do either!).

Road junctions, in such circumstances, are by their nature even more vital than roads cut through difficult terrain. This is the reason that the town of Bastogne played such a crucial role in the Ardennes campaign. These are the real traffic choke points when campaigning in difficult terrain and should be considered prime secondary objectives.

Targets of Opportunity

Often, while you are traversing to your primary or secondary objectives, you encounter targets of opportunity that justify a slight detour. For example, enemy land units are most vulnerable when they are riding in transports. An important command consideration is to destroy these easy targets whenever the opportunity presents itself and your risk of exposure to enemy counterattacks is not too great.

Conversely, protecting friendly land units in transports is a difficult matter. In many cases, it is hard to stop a determined enemy from getting at them after they have been discovered. Always deploy your transports in such a way that the enemy risks exposure to a strong counterattack on your next turn. Because transports are so difficult to completely protect, the best recourse is to make any enemy attacks against them costly.

Reviewing Your Objectives

> *"Superficial goals lead to superficial results."*
>
> —Attila the Hun

Your efforts must be aimed at having the requisite number of victory objectives at the end of the game, and, when you have the burden of attacking, you must keep one eye on the turn record if you want to garner a decisive victory for early conquest.

Figure 2-5. Ground units mounted in their transports are juicy targets. Don't pass up the opportunity to eradicate these threats before they can dismount.

In addition to these primary objectives, we have offered a host of important secondary objectives to aim for along the way. These objectives concern holding key terrain features and maintaining avenues of approach to your primary objectives. What you must develop on your own, however, is a skilled general's eye for knowing how to prioritize these objectives. This skill comes to fruition only with time and experience in the crucible of combat. In the interim, however, we aid that learning process by expanding the foundation on which your experience can build.

Offensive

The second principle of war is that only offensive action can achieve decisive results. The best that defensive action alone can achieve is stalemate, which is not decisive. To win, you must take the offensive and move against the enemy. Even when you conduct a *strategic* defensive, launching appropriate counterattacks at decisive points and times can keep the player on the strategic offensive off-balance, forcing him to pull back, regroup, and reorganize before he can move his forces forward again.

Simply put, troops can be doing one of two things: either waiting for something to happen or making something happen. Generally speaking, if

they are making something happen, they are on the offensive. Conversely, if they are waiting for something to happen, they are on the defensive. We examine both these states, beginning with the offensive.

Taking the Offensive

"De l'audace et toujours de l'audace. (Audacity, always audacity.)"
—Napoleon Bonaparte

Units on the offensive control the tempo for an engagement; in particular, when and where battles are fought. The benefit of the offensive is that it controls contact with the enemy.

Offensive activity seeks to find weaknesses in the enemy's defense. It also has the advantage of refocusing the enemy's attention toward reacting to the offensive action. This reduces the defender's capability to be proactive and develop his own offensive plans to achieve his objectives.

Figure 2-6.
A lanky GI, with hands clasped behind his head, leads a file of American prisoners marching along a road somewhere on the western front. Germans captured these American soldiers during the surprise enemy drive into Allied positions. Captured German photograph *(courtesy of the National Archives and Records Administration).*

Even when a smaller army is facing a larger one, taking the offense remains an important principle. By counterattacking where the strength of an enemy's army is absent and suddenly appearing where you are not expected, you harry him and force him to worry about his own security. This threat from you may in turn divert his resources away from his offensive against you, and that could have any number of benefits.

The major drawback to conducting an offensive is that it takes energy — a lot of energy — to conduct one carefully. Offensives are tiring and expensive (in both resources and troops) by their nature. Also, they can be confusing and distracting. If units are running around helter-skelter, for example — not cohesively moving toward a clearly defined objective — they can be defeated in detail by a defender that keeps a cool head and follows these military principles. Before moving forward, let's examine the importance of energy in greater detail.

Energy: Staying Focused

According to Sun-tzu, the Chinese military philosopher whose book *The Art of War* is considered a classic of military philosophy, armies require energy to be victorious. He refers to human energy—that spent by the troops when they march or fight and that spent by commanders when they plan and organize.

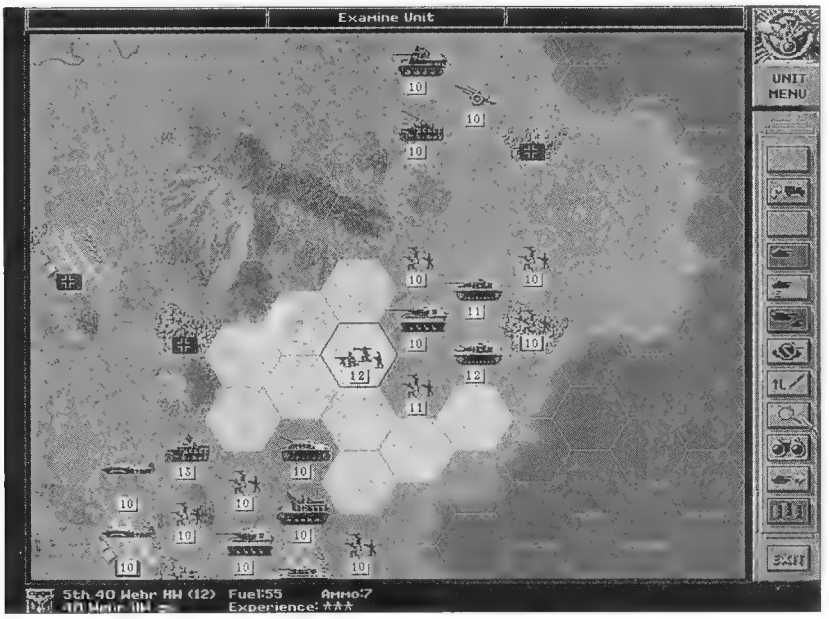


Figure 2-7. Energy in Panzer General is symbolized in five ways: strength, experience, fuel, ammunition, and entrenchment level. Use the Examine Unit screen to determine the status of all these values.

In *Panzer General*, your troop's energy is symbolized in five ways: strength, experience, fuel, ammunition, and entrenchment level. A wise general knows to try to conserve this energy, expending it only to achieve important goals that forward the cause of victory, not vainglory. The details of how to preserve and maintain this energy are addressed in the next three chapters. For now, it is important only that you think of every battle as an expenditure of some sort of energy. Unless that energy is spent wisely, with the right units attacking in the optimal order, the loss of it will probably result in reverses or defeats in battle.

As a Panzer General, your own energy (the focus of your attention, your time spent working one sector of the front in favor of another, etc.) must also be spent wisely. Without defining and obtaining clear objectives along your path to victory, your energy is wasted on the many unimportant goals you can obtain rather than on the few important ones you must obtain.

Combined Arms and the Offensive

World War II was a truly modern, mechanized war. Successfully conducting this type of a war requires the coordination of many troop types. Although infantry and armor face the brunt of the fighting, they require the assistance of supporting units to remain viable formations across multiple engagements. Artillery, air defense, planes, and ships provide fire support to infantry and tanks, on both the offensive and the defensive. This is known as the concept of "combined arms." The best Panzer Generals use their combined arms to advantage and deny the enemy the opportunity to do the same. One of the best ways to accomplish the latter goal is by prioritizing enemy target types properly.

Artillery

On the ground, enemy artillery units are the land targets of choice. Because they can lob in their defensive fire, they can make the act of assaulting positions adjacent to them way too costly for an attacker. In preparation for an assault on an enemy position, therefore, it is important to scout out all the hexes adjacent to the target hex to see whether any enemy artillery is lurking there. If so, it is a good idea to either reduce its strength or, better still, eliminate it before continuing the assault.

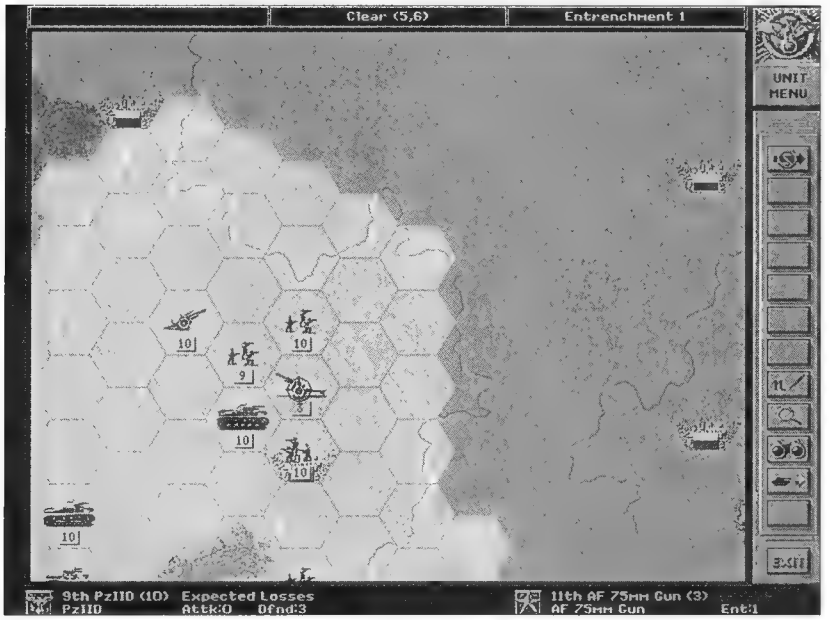


Figure 2-8. Use any means available to you to destroy enemy artillery.

There is no best way to kill artillery units. Go after them in every way possible: by attacking with adjacent land units, using "counterbattery" fire (having your artillery shoot their artillery), applying shore bombardment from any nearby capital ships you have handy, and calling in the tactical bombers to flatten them from the air. Eliminating these combined arms assets from the enemy arsenal is critical to sustaining the offensive.

Air Defense and Air Superiority

Likewise, if your air units need to operate in an area that is protected by enemy air defense units, you have to apply the same aggressive measures against them that you do against enemy artillery. They simply cannot be allowed to provide their defensive fire to air strikes against their adjacent friendly ground units, and you certainly don't want them throwing shells at your planes from two or three hexes out during their turn! Air defense units are vulnerable to your direct attacks, but less so than artillery. Only certain ground units are well-suited to taking out these batteries (for full details, see Chapter 5, "Combat and Tactics: When Units Collide"). Ranged fire is always effective, however.

Figure 2-9. For best results, use friendly artillery or naval bombardment to take out enemy air defense batteries.

Eliminating the enemy's ground-based anti-aircraft fire solves only half of the air superiority equation, however. To eradicate all of this part of the combined arms equation, you must also deal with enemy fighters. By destroying enough of these units, you can gain air superiority, making the skies less hostile for your bombers to operate in. If the enemy fighter force is eliminated, you have gained air supremacy, allowing your own fighters the freedom to switch from bomber escort and air combat duties to direct ground support.

Please also note that fighters account for some considerable prestige value when they're destroyed, so be sure to wipe out the enemy's fighters whenever possible. Naturally, enemy bomber units are also prime targets for destruction because this takes away the enemy's aerial punch, forcing his ground units to work that much harder to destroy your forces. Also, bomber type units, both tactical and level, represent a considerable amount of prestige—something well worth capitalizing on.

Gaining supremacy of the skies when you're fighting a modern, mechanized war is tantamount to victory, provided of course that you also follow the other guidelines discussed herein.

Sea Control

Finally, there are the ships. Whenever you can wrest control of the seas through clever naval tactics (see Chapter 5, "Combat and Tactics: When Units Collide"), do so. Naval units that aren't harassed can provide powerful support along coastal areas. Also, they represent a considerable chunk of prestige, particularly the capital ships and carriers. If you can find a way to sink an enemy ship, chances are that it will always be worth it. Nothing is more of a pain than having nothing but land units to combat an unhampered enemy fleet!

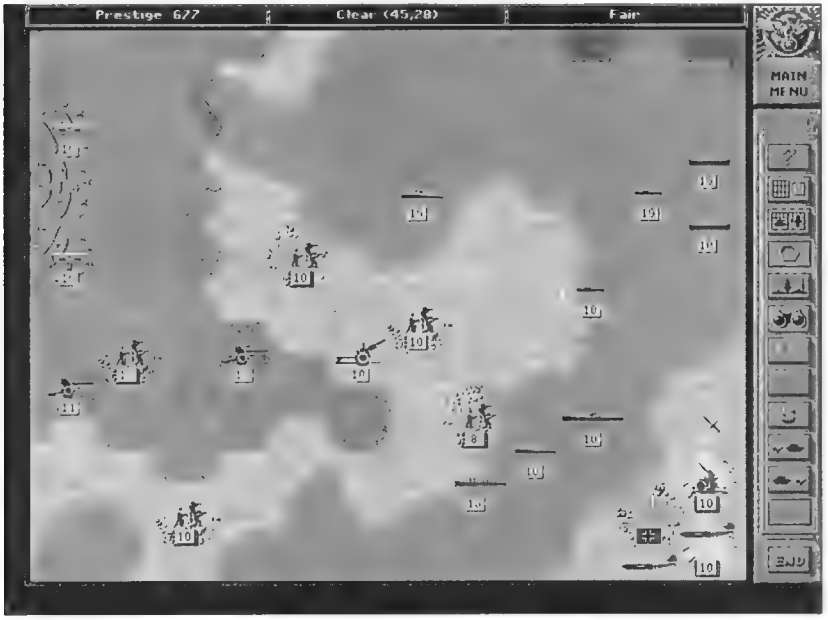


Figure 2-10. When you have control of the seas surrounding the battlefield, your naval assets can be tremendous force multipliers to the ground offensive.

The Case for Defensive Operations

Now consider for a moment the other side of the coin: defensive warfare. Defense has two goals, both of which are the antithesis of offense. The first defensive goal is to make an enemy's offensive action hazardous and costly. When the defender throws back an enemy offensive, inflicting heavy casualties in the process, he has succeeded. Likewise, when the defender forces an attacking army to do nothing because it would be too risky to either attack or bypass the defenders, he has also succeeded.

The second goal of defensive warfare is to provide a secure platform from which to conduct an offensive. Offensives do not spring up by themselves overnight. The mass of forces required to conduct an offensive must be built up over time behind the safety of a secure defense.

Knowing When To Attack and When To Defend

In the words of Sun-Tzu, "Defense is for times of insufficiency; attack is for times of surplus. He who knows when he can fight and when he cannot will be victorious." As you divide your forces to pursue multiple objectives simultaneously, keep in mind that superiority and inferiority are *local* matters. For example, your 10-strength unit, sitting in its trenches, can easily slap around an adjacent 2-strength point in most cases. Here, you are attacking and the enemy is defending, regardless of the overall strategic situation. *Local* superiority is the key to knowing whether one group of units should take the offensive or remain on the defensive.

Simplicity

The third principle of war is simplicity. The more complex an operation becomes in the planning process, the greater its chance of failure in implementation. Simplicity must be the keynote of military operations. Never forget the old barracks maxim of K.I.S.S. (Keep It Simple, Stupid!). Fortunately, *Panzer General* has reduced the many complexities of war into a simple, playable game format. Since you will always have the luxury of time to plan your maneuvers, they can be a bit more elaborate than when time is pressing you (as it does in real time computer games, where the action continues nonstop).

Simplicity in *Panzer General* can best be thought of as limiting the amount of objectives you are striving to obtain so as to keep your energy focused. Deal with smaller problems first so that they do not grow into larger ones. Keep your strategies clear and simple. In the words of Carl von Clausewitz in his magnum opus *On War*, "Everything is very simple in war, but the simplest thing is difficult."

Unity of Command

Napoleon Bonaparte recognized that "Nothing is so important in war as an undivided command." As with the principle of simplicity, however,

achieving unity of command is never a problem in *Panzer General*. As supreme leader of all your forces, they move by your will alone with an absolute singleness of purpose. About the only time you have to concern yourself with this principle is if you invite a friend over and play the same side together. Then you must determine who will make the final decisions about troop allocations to sectors of the front, how Prestige Points are parceled out, etc.

Mass

To concentrate the maximum available combat power and apply it at the point of decision is to achieve the principle of mass. Alternatively, this principle can be thought of as "getting there firstest with the mostest." Basically, when troops begin to congregate in a particular area (usually around important geographic objectives) and it's time to count noses in battle, you want to have the advantage of greater numbers (both in units and strength points!) on your side. This concept, although simple, is the point of most maneuvers and the way most battles are won and objectives taken.

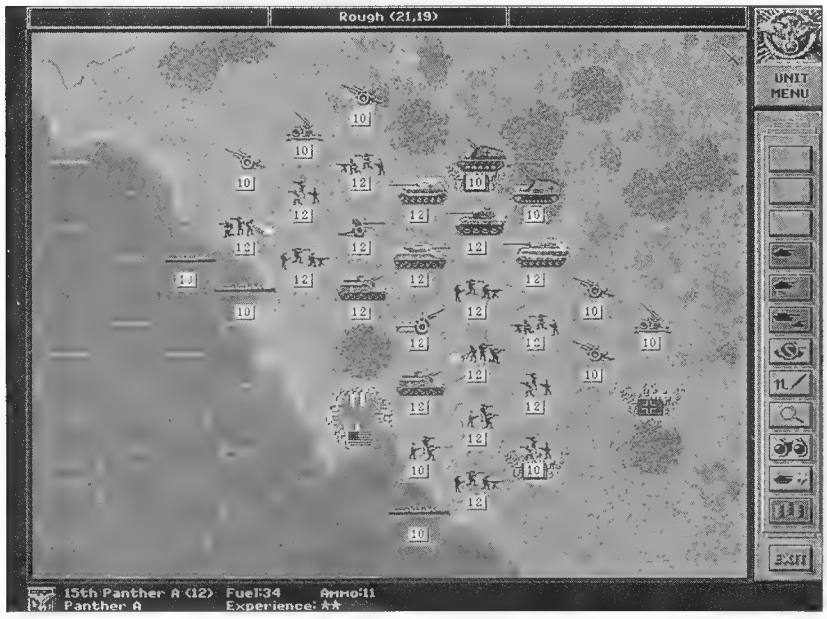


Figure 2-11. Always strive for numerical superiority when you're planning an offensive, but remember that your troop concentrations are juicy targets for the enemy as well.

Velocity

Moving an assembled mass of units as rapidly as possible to maximize their gains while the enemy is still preparing to react is to give that maneuver *velocity*. In physics terms: The force of military strength equals its mass multiplied by its velocity (or speed). In other words, a large body of troops is far more menacing when it is moving. Do not sit on your advantage of mass, but instead multiply its strength by keeping it moving—press your advantage!

Economy of Force

When you are employing the minimum essential means at points other than that of decision, you have achieved economy of force. This means always having your units doing the most important task they can be working on. Since your units are there to obtain your objectives, not using them properly is a waste of precious resources and a violation of this principle. The efficient use of strength makes your entire force stronger.

In practical terms, this means leaving some inferior-quality or slow-moving "leg" units behind to garrison rear areas from enemy surprise maneuvers (such as when they exploit a sudden breakthrough, take an indirect route, or paradrop behind your lines). Often such garrison units can be found in minor ally or auxiliary forces.

Economy of force can also be broadly defined as having the right unit available to do the right job (rocks break scissors, etc.). For example, hitting infantry in the open is the primary task for tanks. Pounding capital ships without risk of their return fire is the special privilege of submarines. Tac air units are better at pounding ground units than are fighters or level bombers. By using the right tool for the job at hand, you also achieve economy of force.

Maneuver

Maneuver must be used to alter the relative combat power of military forces. This means that the goal for moving your units is to gain a local advantage over your opponent somewhere on the map. Six classic maneuvers of conventional warfare that will prove particularly useful to *Panzer General* players are shown in this list:

Penetration of the center

Envelopment of a single flank

Envelopment of both flanks

The feigned withdrawal

Attacking from a defensive position

The indirect approach

Let's examine each of these maneuvers in more detail.

Penetration of the Center

The objective of this scheme of maneuver is to divide enemy forces in such a way that they cannot mutually support one another. This maneuver is generally more effective in the real world than in games like *Panzer General*. The reason behind this disparity has to do with communications. In the real world, severing lines of communications disrupts the enemy's capability to coordinate a counterattack. Because of the overhead view employed on the tactical map in most simulations, astute players (and the AI module) can still coordinate separated forces without penalty. Despite the loss of the inherent real-world benefits of this maneuver, when enemy defenses are spread out over a wide sector, time constraints may still mandate that you punch through the center rather than attempt a flanking maneuver.

Envelopment of a Single Flank

The intent of a single flanking maneuver is generally to force enemy units out of well-prepared defensive positions, thereby minimizing friendly casualties during that and subsequent engagements. The focus is more on the attainment of territory and position for subsequent strategic maneuvering than on the destruction of the enemy force itself.

Remember that air and naval transport points, under the right circumstances, can "turn an enemy's flank" and therefore help open a well-defended enemy pass from the rear.

Envelopment of Both Flanks

When you attempt to secure a position by enveloping both the enemy's flanks,

your objectives are twofold. First, as in the discussion on envelopment of a single flank, you are seeking to attain both territory and position for subsequent operations. Second (this is where the two maneuvers differ), you are not allowing the enemy an avenue of withdrawal. In essence, you want to have your cake and eat it too. Taking the ground is not enough—you must destroy the defending enemy units in the process as well.

The Feigned Withdrawal

A feigned withdrawal tries to achieve enemy disorganization by getting units to move out of their prepared positions to pursue the withdrawing force. Since a moving enemy can't remain as organized as a static one can, by ceasing your feigned withdrawal and counterattacking, victory can be more easily gained. If you can't break a prepared enemy outright, trick him into pursuing you. This maneuver works best when the commander executing it is disciplined and skilled in the art of war and his opponent is inexperienced. In other words, it is a trick that seldom works repeatedly on the same adversary (except for the computer AI). Against the AI, there is a probability die roll associated with its willingness to leave a prepared position and pursue weaker units, such as mounted infantry or artillery. Consequently, your attempts to bait it will not be 100 percent successful, but, if you are persistent, it eventually makes its die roll and falls for your ruse. Bear in mind, however, that the clock continues to tick away during these tactical feints.

> *"Though fraud in all other actions be odious, yet in matters of war it is laudable and glorious, and he who overcomes his enemies by stratagem is as much to be praised as he who overcomes them by force."*
>
> —Niccolò Machiavelli

Attacking from a Defensive Position

Attacking from a prepared defense presents the best of all opportunities and is the goal of any proactive defense. This strategy means having an enemy bash his head against your prepared defenses so that he's too weak to resist your carefully prepared counterattack. When you can sally forth from a position of relative safety at a critical moment in the battle and disorganize an

enemy's attack against you—then you achieve a decisive victory. Be cautioned, however, that even when you attack and win, your forces will be leaving their defensive terrain, so make sure that the enemy is exhausted before launching your counterattack.

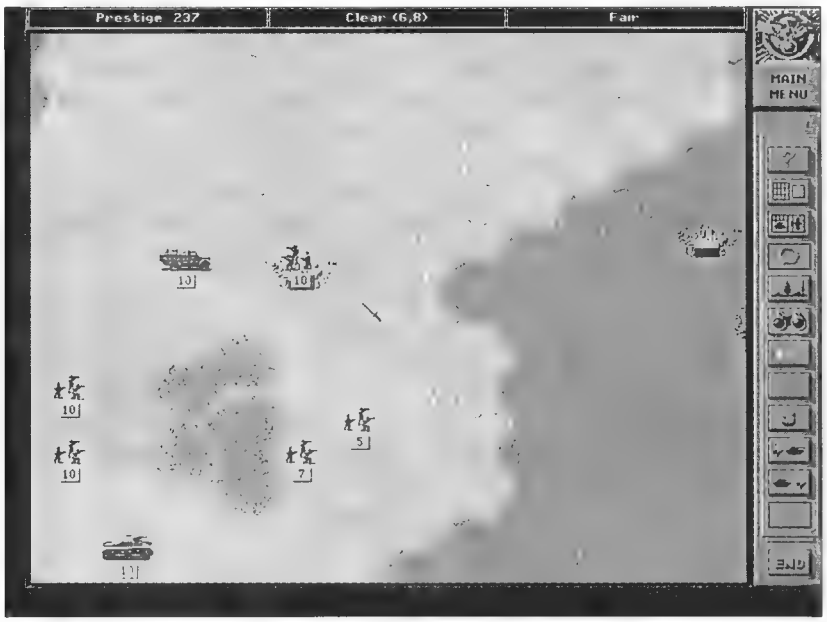


Figure 2-12. By moving an unguarded truck to a position two spaces away from an infantry unit heavily entrenched in a city, you can often lure that unit to leave its prepared position, thereby making capture of that city much easier than by way of frontal assault.

The Indirect Approach

There are many different theories about what makes maneuvers successful. In *Strategy*, for example, B.H. Liddell Hart stressed that "a successful army operates along the lines of least expectation." This theory of using the *indirect approach* means to be obtuse and subtle in maneuvers rather than do what the enemy expects and, therefore, is best prepared to resist. Computer players, by the way, generally expect your attacks to come at the land unit they have nearest to you.

The path of least expectation is the path of least resistance. In other words, to guarantee the success of an attack, attack where there is no defense. It is natural for a player to have troops on the front lines, so use an indirect approach maneuver and strike them on their flanks or, better yet, in their rear areas. Wherever the mass of the enemy's strength is, attack elsewhere. Not

only will your attack succeed, but also the enemy will waste his energy putting out the fires you have started rather than concentrating his energy on attacking you. You are also presenting him with a good opportunity to overreact or even panic, therefore compounding his problems.

Surprise

Surprise may decisively shift the balance of combat power in favor of the commander who achieves it. This means accomplishing the unexpected to gain an advantage. The essence of surprise is to exploit a weakness that the enemy didn't know existed. A secondary goal of surprise is giving the enemy a distraction to concentrate on and waste his energy dealing with it. Using an indirect approach maneuver is the best way to achieve surprise.

Surprise, however, is not only difficult to achieve, but also difficult to maintain. It is hard to devise either a plan so cunning or a maneuver so bold that the enemy is caught completely unprepared. It is harder still to do so to that same enemy more than once. However, surprise remains an element you should strive for in your plans. Nothing builds your legendary status as fast as repeated, successful surprise maneuvers.

Surprise usually requires wide maneuvers, which means that it takes time to develop a situation that might catch the enemy off-guard. One distraction useful for obtaining surprise is a close-to-the-enemy *curtain of maneuver*—something along the front lines that will concern the enemy and distract his attention while your surprise element silently masses up and maneuvers stealthily around it.

Magicians often focus an audience's attention on one hand while the other hand prepares the trick. So too should generals seeking to surprise their enemies be like magicians. Good generals should use a bit of sleight-of-hand, called *operational deception*, and make their forces seem to appear from out of nowhere.

Can you surprise computer opponents? Yes, and in much the same manner as you can surprise human opponents. The only difference is that the computer players are never flustered, they never overreact, and they never compound their difficulties after they realize that they have been surprised. Generally, if you can find a way to maneuver a strong force into the enemy's (thought to be) safe rear areas, you draw a reaction. This is true even against computer opponents.

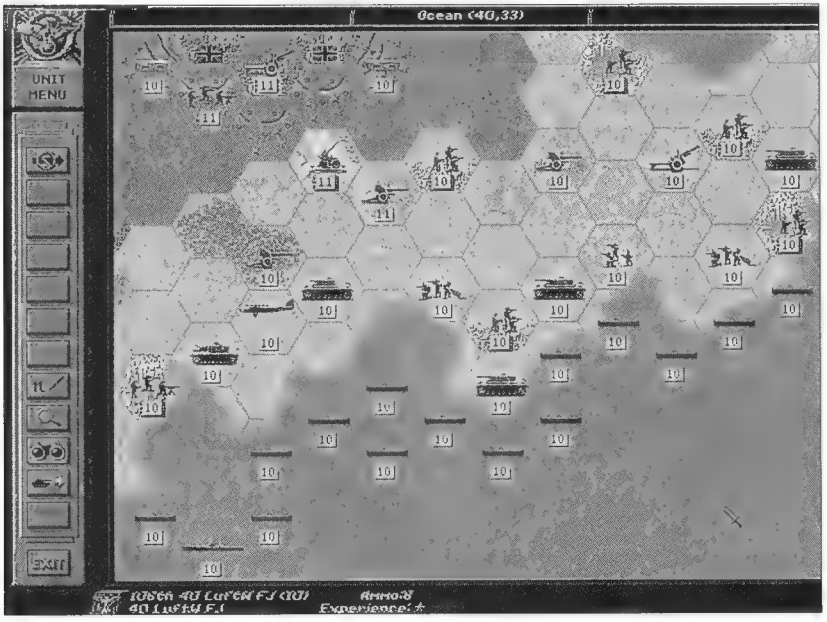


Figure 2-13. Paradrops and amphibious assaults behind enemy lines can do much to disrupt the enemy's plans.

One of the best ways to do this, if you have gained air supremacy, is to use air transports to disembark friendly ground units on airfields behind enemy lines! Thus, they can fly into the enemy's rear and seize ungarrisoned enemy airfields, prompting the enemy to pull forces off the front lines or expend Prestige Points to build new security units for the rear area and deal with the new threat.

Security

Security is essential to the application of the other principles of war and to prevent being surprised. This means that if your land masses and sea lanes are not secure, you will be distracted by enemy attacks against them. When you are distracted, you lose focus, and it is far more difficult to achieve your objectives.

Achieving security requires leaving behind detachments so that cities, air bases, and important sea routes are not attacked by surprise. These detachments are your sentries to guard against some of the same maneuvers we have taught you to employ on the enemy.

Security is usually linked to the principle of economy of force. The reason is that leaving behind abundant defensive forces violates that principle.

Measure carefully, therefore, how much of your main force's mass must be left behind on garrison duty. As a rule, the skill of your opponents should be the primary factor in that decision. The computer AI module is much less adept at exploiting rear area weaknesses than a savvy human opponent is.

Do not reduce the mass of your main force (or forces) more than you must—that is the principle of economy of force. Conversely, do not leave behind defensive reaction forces that are insufficient to deal with enemy surprises—that is the principle of security. Knowing where the balance lies between these principles is the mark of an experienced commander.

Beyond the Principles of War

Above all else, *Panzer General* is a game of strategy. Those who have mastered the principles of war are always favored to win. In addition to the general principles and specific tips provided in this chapter, we have included these additional considerations to improve your strategic plans when you play *Panzer General.*

Taking Time To Think

> *"The first quality in a general-in-chief is a great knowledge of the art of war. This is not intuitive, but the result of experience. A man is not born a commander. He must become one."*
>
> —Montecuccoli

Panzer General is not a time-limit game. You do not have to be hasty in either planning your moves or executing them. Take your time, therefore, and plan your strategy carefully.

Learning these principles of war is an important first step to becoming a great *Panzer General.* The second step is to live them and make them habitual, something you do instantly and without conscious thought. Habits, of course, are developed by repeatedly doing something. These principles of war are not merely something to read or even learn—they are something to truly *live.*

What follows is a special feature we've shared in other books we've written. It is appropriate that an "instant course" in good generalship be summarized by great thinkers. Quickly, then, to review:

Why should I learn the principles of war?

> *"Untutored courage is useless in the face of educated bullets."*
> —George S. Patton, Jr., in Cavalry Journal, April 1922

Can't I win without knowing these principles?

> *"Sometimes we see a hazardous campaign succeed, the plan of which is directly at variance with the principles of the art of war. But [its] success depends generally on the caprice of fortune or upon faults committed by the enemy—two things upon which a general must never count."*
> —Napoleon Bonaparte

Why should I listen to all these quotes?

> *"Wise warriors are mightier than strong ones, and those who have knowledge than those who have strength; for by wise guidance you can wage your war, and in abundance of counselors there is victory."*
> —Proverbs 24: 5-6

The art of war seems so difficult, though.

> *"The Art of War is simple enough. Find out where your enemy is. Get at him as soon as you can. Strike at him as hard as you can, and keep moving on."*
> —Ulysses S. Grant

Are there other simple examples of the art of war?

> *"The enemy advances, we retreat. The enemy encamps, we harass. The enemy tires, we attack. The enemy retreats, we pursue."*
> —Mao Tse-tung

Don't these principles actually restrict my creativity rather than assist it?

> *"Of all the theories on the art of war, the only reasonable one is that which, founded upon the study of military history, admits a certain number of regulating principles but leaves to natural genius the greatest part of the general conduct of a war without trammeling it with exclusive rules."*
> —Antoine Henri de Jomini, Précis of *The Art of War*, 1837

But my opponent keeps frustrating my plans!

> *"You will usually find that the enemy has three courses open to him, and of these he will adopt the fourth. No plan survives contact with the enemy."*
>
> —Helmuth von Moltke (the Elder)

So I shouldn't even *bother* to make plans?

> *"One does not plan and then try to make the circumstances fit those plans. One tries to make plans fit the circumstances. I think the difference between success and failure in high command depends on the ability, or the lack of it, to do just that."*
>
> —General George S. Patton, Jr.

All right, I surrender. Where can I learn more?

> *"Peruse again and again the campaigns of Alexander, Hannibal, Caesar, Gustavus Adolphus, Turenne, Eugen and Frederick. Model yourself upon them. This is the only means of becoming a great captain and of acquiring the secret of the art of war. Your own genius will be enlightened and improved by this study and you will learn to reject all maxims foreign to the principles of these great commanders."*
>
> —Napoleon Bonaparte, *Maxims*

You mean read *history books?*

> *"Historical examples provide the best kind of proof in the empirical sciences. This is particularly true of the Art of War."*
>
> —Carl von Clausewitz

So I really should study this stuff?

> *"With 2,000 years of examples behind us, we have no excuse when fighting for not fighting well."*
>
> —T. E. Lawrence (of Arabia)

Graduation from Strategy School

Let your successes and your failures teach you the lessons required to earn a degree from this, the *Strategist's School of Hard Knocks*—without requiring the 15,000 *real* casualties Marshal Ferdinand Foch estimated that it took to train one major-general during World War I. No doubt by now your mind is already swimming with great thoughts and sound military principles. Get into the game and try them. There are no penalties for experimentation in this silicon test tube. By understanding the underpinnings of *Panzer General*, you are bound to enjoy it even more!

3

Operational Analysis

"Tell them from me they are unloading history."
—Winston Churchill, telegram to the Port Commandant of Tripoli,
24 February 1943.

While campaigning, a good general often becomes an accidental tourist. Finding where to go, knowing what enemy units are there, figuring how long it will take to arrive, making arrangements for gas and other supplies, anticipating the weather—these matters can help you on your European tour of duty. Although no fold-out Michelin Guide is included in this book, we present this chapter instead. Here we teach you all there is to know about getting around the maps in *Panzer General.*

"General" Geography

Each scenario in *Panzer General* features a map representing the actual terrain where maneuvers were conducted and battles were fought. Superimposed over these maps is a hexagonal grid that can be toggled on or off by using the Hexsides button, located about halfway down the main menu. This grid regulates the movement and range calculations for units. Each playable space on the map (or board, as war-gamers sometimes call it) is referred to as a hex, or square.

A Frenchman weeps as German soldiers march into the French capital, Paris, on June 14, 1940, after the Allied armies had been driven back across France *(courtesy of the National Archives and Records Administration).*

Each hex is composed of a single terrain type, such as clear, forest, road, desert, etc. Rivers occasionally have roads intersecting them, indicating that the river has a bridge on that square. These bridges are often important points as units try to maneuver as rapidly as possible across the map. Note that hexes with blue boarders are unplayable (they represent neutral Sweden and Switzerland).

Control Flags

Another element that cities, ports, and airfields possess is a flag. The nationality of that flag denotes the player controlling that installation. Note that such hexes flattened by level bomber attacks become uncontrolled and have no flag. They can be seized and repaired (and, hence, a control flag reestablished) by any dismounted infantry type unit.

Control of flagged hexes is important from a prestige standpoint, for the placement of new units and for refueling and resupply purposes. Control flags with a glowing, gold border are particularly important because these scenario objectives decide the game's outcome.

What Is There To See?

When you're playing with hidden units, spotting them becomes a game within the game of *Panzer General*, assuming that you will use the limited intelligence ("fog of war") options for both Hidden Units and Hide Computer Moves (you select them from the Options menu).

How Spotting Works

At the beginning of each player's turn, all hexes on the map become hidden except those adjacent to a friendly city, port, or airfield. In addition, every friendly unit reveals all the hexes out to the limit of their spotting range. After a hex becomes visible during a player's turn, it remains visible for the remainder of that player's turn. For this reason, air units can cut a nice swath of spotted hexes in their wake. Enemy units not currently within the spotting range of a friendly unit do not appear on the map and, therefore, cannot be fired on by ranged weapons (such as artillery and naval bombardment).

Effects of Weather on Spotting

Air units have their spotting ranges halved (rounded down) during overcast conditions and reduced to one hex when it is raining or snowing. All non-air units have their spotting ranges reduced by one during overcast conditions and halved (rounded down) when it is raining or snowing.

Submarines and Spotting

A unit has only a 50 percent chance of spotting a submarine within its spotting range unless it is adjacent to that submarine. Adjacent submarines are always spotted.

Tips for More Effective Reconnoitering

Certain units blessed with long spotting ranges or high movement rates make effective scouts. On land, these are your reconnaissance armored-car units. At sea, your patrol boats and destroyer-class ships should be probing the unknown. In the air, fighter-bombers make the best spotters, with pure fighters serving almost as well in this role.

In addition to their combat support roles, in fact, air units are the optimum reconnaissance platforms. The reason is their range, rate of movement, and the fact that they are not impeded by difficult terrain. The only obstruction to aerial recon (other than enemy fighters, of course) is the loss of visibility associated with inclement weather fronts.

Before moving your main attack groups into unknown enemy territory, probe it with the aforementioned scouts. A unit can have no worse fate than to blindly walk into an enemy unit. *Don't let this happen to you!* Every time you are surprised by blindly walking into an enemy unit, you've made a beginner's mistake. Experienced generals probe skillfully and proceed with caution into the unknown.

WAR LESSON: The computer player does not cheat by looking at your forces when the Hidden Unit option is on. It must probe to discover your hidden forces by using the same reconnaissance techniques you must employ to find its units.

Unit Movement

A unit's movement allowance represents the maximum speed and distance that unit can travel over the period of time represented by a single game turn. A unit's movement points cannot be saved up from turn to turn nor transferred from unit to unit. If a unit does not spend all its movement points during a turn, the unspent points are simply lost.

During each turn, a unit can move once and attack once (see Chapter 5, "Combat and Tactics—When Units Collide"), in either order. There are two exceptions to this rule: artillery and air defense units. These unit types may shoot only before moving.

Please note that movement point costs vary by the type of terrain in the hex being entered, the type of movement a unit uses (leg, wheeled, tracked, etc.), and the weather. Tables 3-1 through 3-8 show the various terrain effects on unit movement based on both the type of movement and prevailing ground conditions. A full explanation of ground conditions occurs later in this chapter.

NOTE: Terrain also affects the initiative rating of the unit that occupies it. For a full explanation of these effects, see Chapter 5.

Table 3-1

Tracked Movement

Terrain	Dry	Mud	Ice
Road/City	1	1	1
Clear	1	2	1
Forest	2	3	2
Bocage	4	All *	All *
Hill/Rough	2	3	2
Mountain	All *	All *	All *
Sand	1	1	1
Swamp	4	N/A **	2
Ocean/Coast	N/A **	N/A **	N/A **
River	All*	N/A **	2
Fortification	1	2	1
Port	1	1	1

* The unit must expend all its movement allowance to enter this hex.

** The unit is prohibited from entering this hex.

Table 3-2

Half-tracked Movement

Terrain	Dry	Mud	Ice
Road/City	1	1	1
Clear	1	3	2
Forest	2	3	2
Bocage	All *	All *	All *
Hill/Rough	2	4	3
Mountain	All*	All*	All*
Sand	1	1	1
Swamp	4	N/A **	2
Ocean/Coast	N/A **	N/A **	N/A **
River	All*	N/A **	2
Fortification	1	2	1
Port	1	1	1

* Unit must expend all its movement allowance to enter this hex.
** The unit is prohibited from entering this hex.

Table 3-3

Wheeled Movement

Terrain	Dry	Mud	Ice
Road/City	1	2	2
Clear	2	3	2
Forest	4	All *	All *
Bocage	All *	All *	All *
Hill/Rough	4	All *	All *
Mountain	All *	All *	All *
Sand	3	3	3
Swamp	All*	N/A **	3
Ocean/Coast	N/A **	N/A **	N/A **
River	All*	N/A **	3
Fortification	2	4	3
Port	1	2	2

* Unit must expend all its movement allowance to enter this hex.
** The unit is prohibited from entering this hex.

Table 3-4

Leg Movement

Terrain	Dry	Mud	Ice
Road/City	1	1	1
Clear	1	1	1
Forest	2	2	2
Bocage	2	2	2
Hill/Rough	2	2	3
Mountain	All *	All *	All *
Sand	2	2	2
Swamp	2	All *	1
Ocean/Coast	N/A **	N/A **	N/A **
River	All *	All *	2
Fortification	1	1	1
Port	1	1	1

* Unit must expend all its movement allowance to enter this hex.
** The unit is prohibited from entering this hex.

Table 3-5

Dismounted Gun Movement

Terrain	Dry	Mud	Ice
Road/City	1	1	1
Clear	1	1	1
Forest	1	1	1
Bocage	1	1	1
Hill/Rough	1	1	1
Mountain	All *	All *	All *
Sand	1	1	1
Swamp	N/A **	N/A **	N/A **
Ocean/Coast	N/A **	N/A **	N/A **
River	All *	All *	All *
Fortification	1	1	1
Port	1	1	1

* Unit must expend all its movement allowance to enter this hex.
** The unit is prohibited from entering this hex.

Table 3-6

Air Movement

Terrain	Dry	Mud	Ice
Road/City	1	1	1
Clear	1	1	1
Forest	1	1	1
Bocage	1	1	1
Hill/Rough	1	1	1
Mountain	1	1	1
Sand	1	1	1
Swamp	1	1	1
Ocean/Coast	1	1	1
River	1	1	1
Fortification	1	1	1
Port	1	1	1

Note: In addition to these range-based values, air units automatically expend four to eight movement points per turn just to stay airborne.

Table 3-7

Naval Movement

Terrain	Dry	Mud	Ice
Road/City	N/A **	N/A **	N/A **
Clear	N/A **	N/A **	N/A **
Forest	N/A **	N/A **	N/A **
Bocage	N/A **	N/A **	N/A **
Hill/Rough	N/A **	N/A **	N/A **
Mountain	N/A **	N/A **	N/A **
Sand	N/A **	N/A **	N/A **
Swamp	N/A **	N/A **	N/A **
Ocean/Coast	1	1	1
River	N/A **	N/A **	N/A **
Fortification	N/A **	N/A **	N/A **
Port	1	1	1

** The unit is prohibited from entering this hex.

Table 3-8

All-terrain Movement

Terrain	Dry	Mud	Ice
Road/City	1	1	1
Clear	1	2	2
Forest	3	4	4
Bocage	3	All *	3
Hill/Rough	3	All *	3
Mountain	All *	All *	All *
Sand	2	2	2
Swamp	All *	N/A **	3
Ocean/Coast	N/A **	N/A **	N/A **
River	All *	N/A **	2
Fortification	1	3	2
Port	1	1	1

* Unit must expend all its movement allowance to enter this hex.
** The unit is prohibited from entering this hex.

Zones of Control

Every unit exerts a zone of control (ZOC) into the six hexes surrounding its location. A unit's ZOC represents its capability to project its forces into surrounding areas and, therefore, impede enemy movement. A unit's zone of control affects only similar types of units. In other words, naval units' ZOCs hinder only enemy naval units, air units' ZOCs affect only enemy air units, and land units' ZOCs work against only enemy land units. When you move a unit into the zone of control of an enemy unit, its movement stops. It must then either attack (if it is able to) or end its turn.

Automatic Endings of Planned Movement

There are certain occasions on which a unit's movement is automatically ended. Entering an appropriate enemy zone of control, as just described, is one way. Another is for a unit to enter an unbridged, unfrozen river square. Although units can move off a river square normally, they must stop upon entering one unless a road crosses the river at that point or an unmounted bridging engineer unit is already on that square (that is, the river is temporar-

ily bridged). When snow covers the ground, rivers (and swamps) freeze and are treated as clear terrain for all purposes.

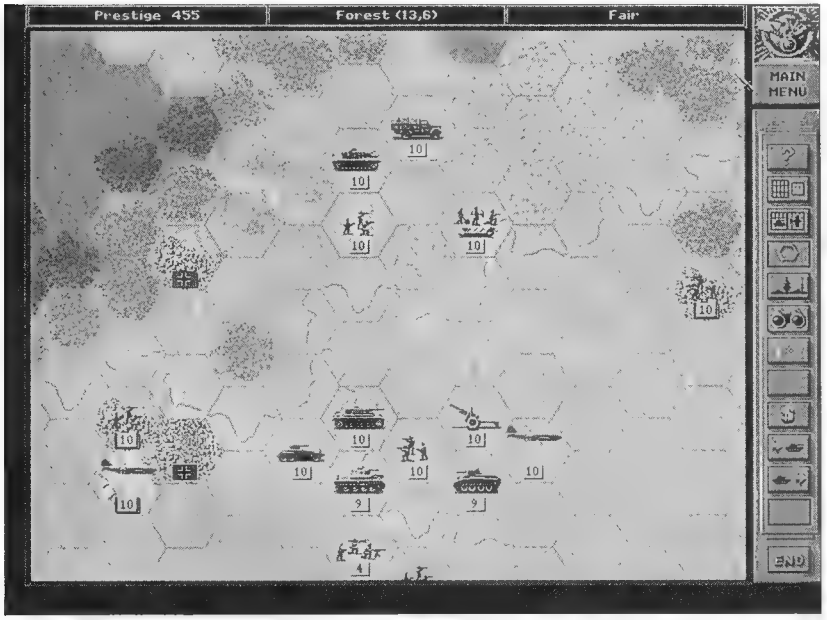


Figure 3-1. Although bridging engineers are expensive units to build and maintain, they enable you to bypass the enemy's prepared river bank defensive positions and capitalize on the strategy of an indirect approach.

A third way for a unit's move to automatically cease is when it is ordered to move *through* a hex occupied by an unspotted enemy unit. In this case, the moving unit is ambushed by the enemy unit. These engagements never turn out in favor of the unit being surprised. When the automatic combat ends, if the friendly unit survives at all, its movement phase is over.

Finally, if a unit is newly built, receives supplies or replacements, or upgrades its equipment during that turn, it cannot move.

Aborting a Move

If you change your mind about the hex you wanted a unit to move to, you can, if the movement has not uncovered any previously unspotted enemy units, retract that move by pressing the Abort Move button at the top of the Unit menu. You must abort a unit's move *before* attacking with it or selecting another unit. The restriction on unspotted enemy units is an important one. Without it, it would be far too easy to reconnoiter enemy lines. As is, astute players move their air power and recon units first each turn, thereby develop-

ing the most accurate possible picture of enemy troop dispositions before committing units from the main force.

With proper reconnaissance, you can use the Abort Move feature to plan your attacks against previously spotted enemy units. Here is how you do that. First, if a unit is moving before conducting its attack during that turn, move it next to a previously spotted enemy unit. Check out the odds of winning a battle with that adjacent enemy unit by putting the target cursor over it and reading the estimated losses beneath the tactical map. If you don't like the odds, you can abort that move, move adjacent to another previously spotted enemy unit, and repeat this process until you have a clear idea which enemy unit you can do the most damage to (while taking the fewest casualties in return). After making this determination for all your front-line units, you will find it much easier to determine your optimum battle plan for moving and fighting during that turn.

Stacking

Only one land or sea unit can stack in a single hex, along with one air unit (either enemy or friendly). When air units are stacked with other pieces, only the one with the larger icon can be selected (think of this as the "top" unit in the stack). You can toggle between having air or surface on the top of your stacks by pressing the View Surface/Air Units button on the main menu. This step alters the size of their icons accordingly.

Fuel Expenditures for Movement

When you use the optional logistic rules (by pressing the Turn Supply On/Off button on the Options menu), units expend fuel points every time they move (or, for air units, even when they don't move!). Basically, a unit expends one fuel point for every movement point it spends. There are important exceptions to this rule when it is snowing or when snow is already on the ground.

First, when the ground is covered with snow, all non-air units expend two fuel points for every movement point. Units can still move relatively far during each turn, but they really burn up their gas to do so. Second, air units *must* expend a certain minimum number of fuel points during every turn just to say airborne. Unless an air unit begins a turn at a refueling site, it automatically expends between four and eight fuel points per turn. When it is snowing, however, air units not on airfields or carriers (being adjacent to an airfield doesn't

count!) automatically expend fuel equal to half their movement allowance (rounded down) every turn. This situation greatly limits their "hang time" over targets.

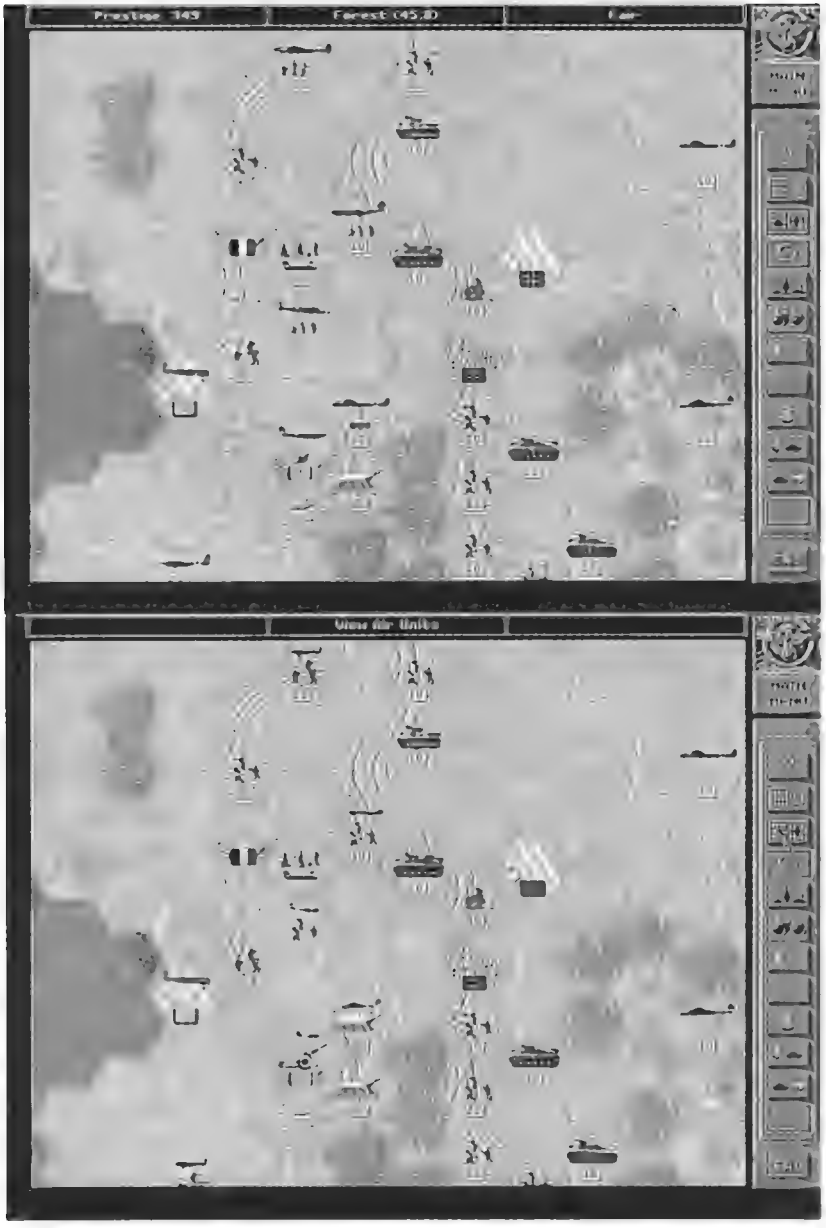


Figure 3-2. When air and ground units are "stacked" in the same hex, the larger icon depicts the unit that is accessed when you click on that hex. To change the active unit, click on the View Surface/Air button on the Main menu.

Transports

Units occasionally need a lift to get them "from here to there" as quickly and efficiently as possible. *Panzer General* has three types of transports that units can use: organic land transports, air transports, and naval transports.

Although transports help units traverse terrain more quickly or even cross oceans, as the case may be, *units mounted on transports are vulnerable in combat.* Mounted units use the transports' combat values (which are always much lower than those of the unit being carried) and share their transports' fate in battle. For this reason, if you want them to arrive safely, *always protect or escort your transports during movement when there is a threat of enemy attack!*

Organic Land Transports

Units that use leg movement (such as most infantry types and towed guns) can be greatly assisted by purchasing trucks or half-tracks to move them around. These vehicles are collectively known as organic transports because they cannot be transferred to another unit and cannot be abandoned simply because they've run out of fuel.

Although trucks are cheaper and faster on roads, half-tracks are more durable. As such, they are a better choice for more expensive unit types. Also, the half-tracks enjoy faster movement rates across rugged terrain.

If you have neither moved nor fought a battle with a unit that has organic land transports, you may select it, check out its two movement options by mounting and dismounting the unit, and then deselect the unit. And *you are still able to reselect that unit and move or fight with it later during that same turn.* In other words, mounting and dismounting does not count as the unit's activity for the turn! By using this technique, you can explore movement possibilities which that unit might be able to exploit if other units are either moved, eliminated, or remain within range to fight.

Be mindful that units with organic transport continue to expend fuel even when they walk rather than ride. The transports still have to keep up with their combat element. When this fuel number is shown in red for a particular unit, it is at or below half its maximum fuel capacity. Let this serve as a warning to refuel this unit before it runs out of gas!

Sea Transports

Sea transports are temporary, non-organic transports obtained from their own pool of available points. The number that is available is shown in the top right corner of the

screen when you pass the cursor over any port. These points are not used up, but they are employed temporarily when you move land units by sea. A point is subtracted from the sea transport pool when a unit is embarked; it is added back when the unit disembarks or is completely sunk en route. The unit's strength (whether it is depleted, full strength, or over-strength) doesn't matter—every land unit type requires a single sea transport point in order to embark.

Friendly land units can embark on sea transports at friendly ports and disembark on any adjacent coast land hex that they could normally enter (if it is not occupied by another land unit or prohibited by terrain for the given unit type, for example). Every land unit type can use naval transports, and it does not have to abandon its organic transportation to do so!

Air Transports

Air transports are identical to sea transports in most respects. They are temporary, non-organic transports obtained from a pool of transport points. For a full breakdown of Axis and Allied transport points, see Appendix D, "Tansport Values by Scenario". The number of units that can be transported by air is in the top right corner of the screen when you pass the cursor over a friendly airfield.

Air transports allow infantry unit types (yes, including cavalry!), light artillery, and light anti-tank units to embark at friendly airfields and disembark at any unoccupied airfield (either friendly or *enemy*). Light artillery is defined as any towed artillery piece up to 75mm in size. Light anti-tank guns are those up to 57mm in size or, for the British, up to their 6-pounders.

WAR LESSON: Landing an infantry-type unit on an unoccupied enemy airfield immediately gains control of that airfield for the landing player. This is a good way to seize enemy territory by surprise and secure forward air bases for your air units.

Paradrops

Paratroops and rangers, unlike other air-transported units, can disembark from their transport in any unoccupied (except by an air unit) non-ocean hex adjacent to the hex on which its air transport began the turn. They are, however, subject to "scatter" when they drop. Here is how that process works.

Figure 3-3.
Parachutes open overhead as waves of paratroops land in Holland during operations by the 1st Allied Airborne Army. September 1944 (courtesy of the National Archives and Records Administration).

When you want to disembark a paratroop or ranger unit from an air transport, you may select as your targeted "drop zone" either the hex the transport is in or any adjacent hex. Air drops can never be made on hexes occupied by land units or on ocean hexes. After the targeted drop zone is selected, the air-dropped unit has a 50 percent chance of landing in that hex. If it fails to land in that hex, it scatters one hex in a completely random direction to any non-prohibited landing hex. This means that an air-drop can land back on the transport's original hex or as much as two hexes away! After making a paradrop, a unit's turn is over. It cannot fight or move during the turn in which it drops.

WAR LESSON: Because of the dangerous nature of a paratroop unit's missions, it is difficult to build up much experience in those units. Operating deep behind enemy lines, they tend to get eliminated before most scenarios are over. Nevertheless, seasoned paratroopers can wreak havoc in the enemy's rear security zones, by seizing unguarded ports, airfields, and cities.

Weather or Not

The weather can play an important role in any battle. Many important World War II operations that are simulated in *Panzer General* were heavily influenced by the weather: the snows around Moscow, Stalingrad, and the Ardennes; the mud in the Balkans and at Kharkov—these battles are difficult for any student of military history to imagine without the weather.

Weather is determined by the weather zone in which a battle is fought and the current month. Prevailing weather changes between storm fronts and fair conditions. Furthermore, every scenario begins with a weather change pending. You do not have to become a meteorologist to anticipate weather effects and factor contingency plans into your operations. Rather, SSI has simplified these complex variables into some easily understood mathematical formulae.

Figure 3-4. As you are planning ahead, make good use of the weather forecasts for the next turn. To anticipate weather changes even earlier, learn how to interpolate the weather data presented in Tables 3-9, 3-10, and 3-11.

When the weather changes to clear, a counter is set for how long the clear weather will last. The value of this counter is equal to this formula:

(Clear Time –1) + (Clear Time –1) +1

You can find the Clear Time value by consulting Table 3-9, Table 3-10, and Table 3-11, whichever is appropriate for the scenario being played. The result of your calculations is the number of turns before clear weather changes to a storm front. To illustrate this concept, consider the following example.

You are in Norway in January, and the weather has just turned clear. Table 3-9 shows that the Clear Time base value is 5. Thus, the equation becomes:

(5 – 1) + (5 – 1) + 1 = 9

You can expect nine turns of fair weather before the onset of a storm front. When the storm front arrives, however, it may or may not lead to precipitation. To understand how that works, continue reading.

During the turn in which the weather changes to a storm front, a counter is set for how long the storm front will last. This duration is determined by using the same formula as for clear weather (the formula just discussed), except that the Storm Time value is used instead of the Clear Time value. At the same time, the storm front type is determined. In Tables 3-9 through 3-11, the number listed under Storm Type is the percentage chance that the storm front carries snow (i.e., a snow front). If it does not, it carries rain (i.e., a rain front).

During every turn in which a storm front exists, there is a percentage chance that it will rain or snow (as shown in the Storm Chance column in the following tables). If it does not rain or snow during that turn, the weather is automatically overcast. Note that it never rains or snows in North Africa or the Middle East.

WAR LESSON: Bad weather generally favors the defender and whichever side has lost air superiority. Use these periods for reinforcement, resupply, and consolidation of your lines. If time constraints dictate that you press the offensive during bad weather, remain mindful of the extra resource costs and loss of proper reconnaissance that are inherent in that decision.

Table 3-9

Northern Europe Weather

Month	Clear Time	Storm Time	Storm Type	Storm Chance
January	5	5	95	60
February	5	5	95	50
March	10	5	35	40
April	10	5	0	30
May	12	5	0	20
June	12	4	0	20
July	12	4	0	20
August	12	4	0	20
September	12	5	5	20
October	10	5	5	35
November	8	5	35	50
December	5	5	75	60

This table is used for the following scenarios: Norway, Low Countries, France Part 1 and Part 2, Sealion (all), D-Day, Ardennes, Cobra, Market-Garden, Berlin (all), and Washington.

Table 3-10

Southern Europe Weather

Month	Clear Time	Storm Time	Storm Type	Storm Chance
January	5	5	60	20
February	5	5	60	30
March	5	5	15	50
April	5	5	5	60
May	10	5	0	50
June	12	3	0	20
July	12	3	0	20
August	12	3	0	20
September	10	5	0	20
October	5	5	10	20
November	5	5	25	20
December	5	5	60	20

This table is used for the following scenarios: North Africa*, Middle East *, El Alamein *, Torch *, Husky, Anzio, Anvil, Balkans, and Crete.
* It does not rain or snow in these desert war scenarios.

Table 3-11

Eastern Europe Weather

Month	Clear Time	Storm Time	Storm Type	Storm Chance
January	5	5	100	60
February	3	6	100	60
March	5	5	80	50
April	5	5	60	40
May	10	5	0	20
June	12	4	0	20
July	12	4	0	20
August	12	4	0	20
September	10	5	0	20
October	5	5	80	40
November	5	5	95	50
December	5	5	100	60

This table is used for the following scenarios: Poland, Warsaw, Barbarossa, Kiev, Moscow (all), Sevastopol, Stalingrad, Kharkov, Kursk, Byelorussia and Budapest.

Atmospheric Conditions

Four possible types of atmospheric conditions are possible: clear, overcast, rain, and snow. When one of these conditions prevails, it has the specific effects on play as described in the following sections. To fully understand these comments, you must first grasp one other variable: wetness.

Wetness is a variable that represents how moist the ground is. Unfortunately, you cannot monitor the exact wetness factor on-screen (it is an internal function of the program), but, after you understand how it works, it is relatively easy to keep track of in your head. Wetness can never be less than 0 (dry ground) or greater than 5 (completely soaked). During each turn, the prevailing atmospheric condition either increases or decreases wetness as determined by the prevailing atmospheric condition. When wetness is at a level of 3 or more, mud or snow conditions exist on the ground (as appropriate). When wetness is at a level of 2 or less, the ground conditions are dry.

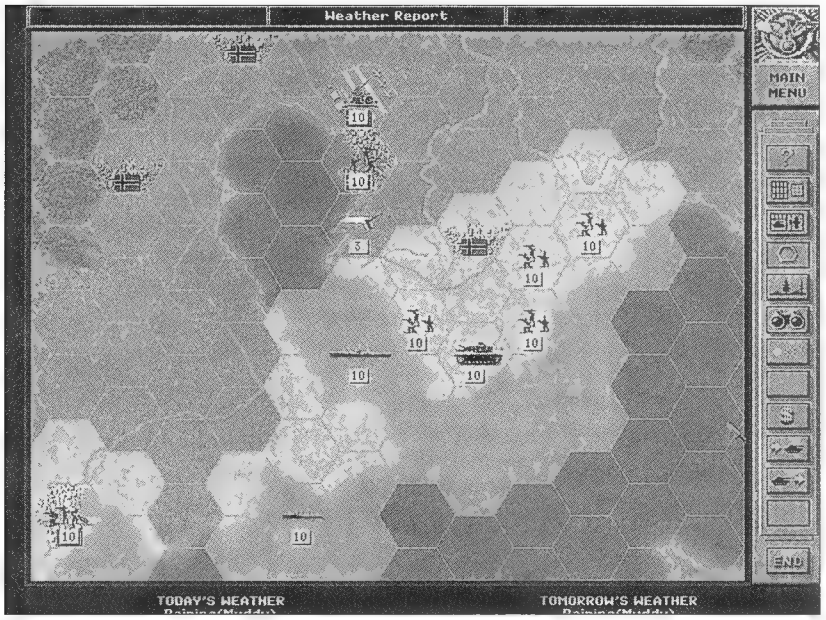


Figure 3-5. Nothing slows an advance quicker than a thick quagmire of mud.

Clear Effects

Clear weather is the ideal condition for offensive combat operations. The effects on the model are as follows:

- Wetness is decreased by 2.
- No effect on land, air, or naval operations.

Overcast Effects

Overcast efffects have the greatest impact on air operations. A summary of the effects are as follows:

- Wetness is decreased by 1 during a rain or snow front turn in which precipitation does not occur.
- Strength points are halved (round up) for all attacks by or against air units.
- Each level bomber's chance to successfully bomb an objective is also halved.
- Air unit spotting ranges are halved (round down).
- All non-air unit spotting ranges are reduced by 1.

Raining Effects

Precipitation of any kind generally favors the defender. Use inclimate weather to consolidate your forces and prepare for the next offensive. Precipitation effects your forces in the following ways.

- Wetness is increased by 2.
- Air units cannot attack or be attacked.
- Air unit spotting ranges are reduced to 1.
- All non-air unit spotting ranges are halved (round down).
- All ground units not in a city, port, or airfield are considered, for resupply purposes only to have one more enemy ground unit adjacent to them than they actually have. The exception to this rule is when units are resupplied by receiving replacements. This makes supply more difficult to receive.

Snowing Effects

These effects are the same as when it's raining; also, air units not on airfields use fuel equal to at least one-half their movement allowance (rounded down) every turn, as opposed to the usual four to eight fuel points per turn minimum. They have, therefore, very little "hang time" over targets.

Ground Conditions

The game also has four possible types of ground conditions: dry, mud, snow, and desert. Naturally, the first three are weather-related, and the latter is a terrain feature found in the North Africa and Middle East scenarios (where it never rains or snows). When the ground condition is dry (see the discussion of wetness in the section "Atmospheric Conditions," earlier in this chapter), there are no ill effects to consider. Mud and snow conditions, in addition to any desert warfare, make fighting, maneuvering, and resupplying units a particular challenge, however.

Mud Effects

Nothing stalls an offensive quicker than a quagmire of mud. Consider the following factors:

- Strength points are halved (round up) for all attacks (those initiated during your own turn) made versus ground units. This penalty, which pertains only to the attacker, is just as applicable to artillery bombardment as it is to ground assaults. Naturally, air and naval units are immune.

- For land units, all terrain types except roads, cities, ports, port facilities, and airfields cost more movement points to enter (Tables 3-1 through 3-8 give complete values).

Snow Effects

The arrival of a snow front can be either welcome or unwelcome depending upon the tactical situation. To understand how the knife can cut both ways, examine the following specific effects:

- Non-air units expend two fuel points per movement point when the ground is frozen.
- Movement costs are increased for some units, as delineated in Tables 3-1 through 3-8.
- Replacement costs are doubled.
- Units in non-city, port, or airfield hexes get fewer supplies.

Desert Terrain Effects

- It never rains or snows in desert war scenarios, but conditions can be overcast, with all the appropriate effects.
- Units on desert terrain have the supplies they receive reduced by three-fourths unless resupplied by way of taking on replacements.

Beans, Bullets, and Bandages

Armies need supplies in order to maintain combat readiness. Although you do not have to worry about running convoys of food up to the front lines (your units never starve in *Panzer General*), keeping them supplied with fuel and ammunition (when you use those options) is an important concern.

Chow is served to American Infantrymen on their way to La Roche, Belgium, 347th Infantry Regiment *(courtesy of the National Archives and Records Administration).*

As mentioned, every time a unit is engaged in battle (whether it attacks another unit during its own turn or shoots back during the enemy's turn), it expends one ammunition point. When a non-air unit spends a movement point, it also spends one or more fuel points, depending on the prevailing ground conditions. Also, we've pointed out that air units must expend a minimum of four to eight fuel points to stay airborne every turn, even when they *don't* move, except while it is snowing (when they must expend a minimum of half their fuel, rounded down, to stay airborne).

So how do you keep your guns loaded and gas tanks full? You read this section, of course!

Automatic Resupply

In most cases, resupplying a unit's fuel and ammunition is easy. At the end of each turn, the following units are automatically resupplied:

- All air units that are on a carrier or airfield *or that are adjacent to an airfield* (which makes it much easier to manage the process of resupplying multiple air units from a single airfield).
- Naval units that are in port cities or port facilities.
- Land units that have not moved, fought, upgraded their equipment, or acted in any way other than to mount or dismount from their organic transports.

Resupply Levels

The amount of resupply also varies by unit types. Air and naval units are *fully* resupplied when they meet the preceding conditions. Land units, on the other hand, receive an amount of supplies equal to only half their maximum ratings (rounded up). Land units can never be supplied *above* their maximum levels!

Resupply Restrictions

There are, of course, limitations applied to resupplying units. A major concern is whether an enemy unit is adjacent to the unit attempting to resupply. Adjacent enemy units often restrict (or prohibit) the resupplying friendly units. Here are the specific cases:

- Unless land units are on a city, port, or airfield, their resupply levels are reduced by one-third when they are adjacent to a single enemy land unit. (For an exception to this situation, see the following section.)

- When two enemy units are adjacent, friendly resupply levels are reduced by two-thirds.
- No unit type can be resupplied (even the aforementioned land units on a city, port, or airfield hex) if there are *more than* two adjacent enemy units.
- If it is raining or snowing during a turn, units not *on* cities, ports, or airfields are automatically considered to be adjacent to one additional enemy unit, thereby precluding normal resupply in most cases.

Figure 3-7. Utilize multiple units when you attack enemy cities, thereby foiling the enemy's attempts to resupply the beleaguered garrison.

- If a unit is on a desert hex (not rough desert or escarpment), the amount of supplies it receives is reduced by three-fourths (with any fractional fuel or ammunition points rounded down). This number is calculated after any deductions for being adjacent to one or two enemy units. (Ack!)
- If a unit is in a position to be eligible to be resupplied, it always receives a minimum of one fuel and one ammunition point.

Resupply Through Replacements

Units receiving either normal or elite replacements automatically receive a normal allotment of supplies.

IMPORTANT: The reductions for weather and desert terrain and the restriction that a land unit must be in a city if it is adjacent to enemy units *do not affect resupply received by way of receiving replacements!* Units can therefore gas up more easily by spending the prestige points to take on replacements instead of waiting around for the free supplies received through normal supply. (Chapter 4 and 5 more completely discuss replacements, and Chapter 6 discusses the prestige point costs.)

A Resupply Example

As an example, a tank unit with a maximum fuel allowance of 40 and a maximum ammunition level of 11 is parked on a desert square and is adjacent to one enemy unit. The base level of fuel and ammunition it recovers when it is resupplied is half its maximum levels (rounded up), or 20 fuel points and 6 ammunition points.

Because the unit is adjacent to an enemy unit, it loses one-third of its base resupply level, which reduces it to receiving only 12 fuel points and 2 ammunition points. The desert reduces *that* amount by three-fourths, so the final resupply value is 3 fuel points and 1 ammunition point. (Even though three-fourths of 2 is less than 1 and fractions for this calculation are rounded down, the rule is that if a unit is eligible to be resupplied, it always receives a minimum of one fuel and one ammunition point.)

Fold Up the Map

This examination of weather, movement, and logistics serves as an important building block for all subsequent learning as a Panzer General. The next step in your education is to develop a strong feel for the various unit types and their ratings. Let's go now, General— your troops are about to pass in review.

4

Pondering the Pieces

"Give us the tools, and we will finish the job."
—Winston Churchill, broadcast address to President Roosevelt, February 9, 1941

Welcome to the review stand. In this chapter, we line up your troops for inspection and parade them by, telling you what distinguishes one unit from another. We examine their various ratings and give a general discussion of each unit type's role on the battlefield (although the specifics of combat are detailed in Chapter 5, "Combat and Tactics—When Units Collide").

What we hope to accomplish in this chapter is to make some sort of sense out of the jumble of numbers that appear whenever you call up a unit's information. Suppose that the information screen lists a unit's entrenchment level as 4, its air attack value as [1], and the close defense rating as 0. How do these values translate to battlefield performance? You may not know now, but by the end of this chapter you will be conversant in what each statistic means and how combinations of statistics interact with one another. This discussion is a crucial prerequisite to understanding the concepts presented in Chapter 5.

Gen. Erwin Rommel with the 15th Panzer Division between Tobruk and Sidi Omar, Libya. Sdf. Zwilling, January or November 24, 1941 *(courtesy of the National Archives and Records Administration).*

The Unit Information Screen

You can use the View Mode button (represented by the field glasses icon) on either the Main menu or the Unit menu to examine both friendly and spotted enemy units. Simply place the magnifying-glass cursor over the unit whose statistics you want to examine. Your goal is to learn to interpret these numbers to predict the probable outcome of any battle between two units. Yes, we're going to make you *that* good!

Current Status Information

The Current Status information appears on the left half of the Unit Information screen, as shown in Figure 4-1. These numbers are variables that are altered for each unit based on the outcome of their engagements and the simple passage of time. Let's examine each one.

Unit Name

Go back for more basic training if you can't figure this one out. You can (and should) change a unit's name by selecting the Name Unit icon on the Unit menu, as symbolized by a fountain pen writing a scripted letter *n*. Choosing this icon allows you to type for that unit a new name of as many as 19 characters.

New unit names can be an important mnemonic device, enabling you to organize your forces by group and task (such as urban assault or mobile operations). This is also the icon you will use to attach historical unit designations to some of your units, such as 1st SS – LAH or 40th Panzer. Naturally, if you want the actual historical orders of battle for a given engagement, refer to appropriate history books for more information about this subject.

Current/Maximum Fuel

The number to the left of the slash mark represents the amount of fuel the unit has. This number appears in this location only for vehicle units (tanks, planes, ships, etc.). Infantry, cavalry, and towed (that is, non-self-propelled artillery, anti-tank, and anti-aircraft) units do not have a current fuel rating in this location on their Status Information display unless they have organic transports. For full details about organic transports, refer to Chapter 3, "Operational Analysis."

Running out of fuel, by the way, is bad news. When this happens, your non-

air units fight with only half their strength points (rounded up) available for combat. When your air units run out of gas, they crash and burn and are lost for the remainder of the game. Contrary to what one might expect, this applies to stationary artillery units as well. The reason for this apparent anomaly is that fuel is being used as a collective rating that covers gasoline, lubricants, and spare parts. In this manner, it is possible for the game engine to simulate historical parts shortages for certain types of equipment as well as the more obvious logistical issues. Consequently, when this fuel number is shown in red for a particular unit, re-supply the unit or add replacements as soon as possible. If you wait until the number reaches 0, the unit's combat readiness is drastically reduced, and it will not be able to pull back out of harm's way either. Resupply the unit, add replacements, or rotate it off the front line until you can do so.

The number to the right of the slash mark indicates the maximum fuel capacity of the unit. This number is an important one to know when you're being resupplied.

HISTORICAL NOTE: During World War II, some famous unit types were introduced to the battlefields before they were fully tested and developed. These unit types included the German Tiger tanks (Tiger I, Tiger II, JadgTiger), some Panther tank models (the Panther D, Panther A, and JadgPanther—but not the Panther G, the one model that finally had all the kinks worked out and was arguably the finest all-around tank that served in battle during World War II), and the Jp Elefant self-propelled anti-tank unit. If you check the maximum fuel ratings on these units, you will find them to be much lower than other German tanks. This reduced maximum fuel capacity is the simple way in which *Panzer General* simulates their susceptibility to constant breakdowns.

Current/Maximum Ammunition

The number to the left of the slash mark is the amount of ammunition the unit has. When the ammunition is depleted, this unit cannot fire at the enemy, either offensively or defensively. Each attack during your turn consumes one point of ammunition, and *so does each defense conducted in the enemy player's turn.* Several ammunition points can be consumed in a single turn, therefore, if a unit defends against several enemy attacks!

Please note that when this number is shown in red for a particular unit, it means that it is at or below half its maximum ammunition capacity. Let this serve as a warning to resupply this unit before it runs out of ammunition!

The number to the right of the slash mark represents the maximum amount of ammunition that unit can carry. When units begin a scenario, they carry a full load of ammunition. Resupply levels are based on this number.

Figure 4-2. Front view of 240mm howitzer of Battery "B," 697th Field Artillery Battalion, just before firing into German-held territory. Mignano area, Italy. Boyle, January 30, 1944 *(courtesy of the National Archives and Records Administration).*

Entrenchment

This number, which can range from 0 to 9, represents the unit's current entrenchment level. The benefit of being entrenched is that, if your unit is attacked in a non-ranged attack by a ground unit other than a pioneer or engineer, there is a chance that it will put up a rugged defense that can seriously hurt the unit which is attacking it. Achieving a rugged defense result is based on the fighting units' relative experience levels *and the defender's entrenchment level.* If a unit's entrenchment level is 0, there is no chance that it can put up a rugged defense. A full explanation of rugged defense is presented in Chapter 5 "Combat and Tactics: When Units Colide."

Improving Entrenchments

All terrain types have a base entrenchment level from 0 to 4 (see Table 4-1). Ground units that would otherwise have lower entrenchment levels from digging in on their own automatically obtain the higher automatic entrenchment level associated with the terrain type at the end of their turn.

Table 4-1

Base Entrenchment Levels

Terrain Type	Base Entrenchment Level	Maximum Entrenchment Level
Clear	0	5
Airfield	0	5
River	0	5
Swamp	0	5
Desert	0	5
Rough Desert	0	5
Escarpment	0	5
Rough	1	6
Port Facility	1	6
Forest	2	7
Bocage	2	7
Mountain	2	7
City	3	8
Port	3	8
Fortification	4	9

Notice that weather has no effect on entrenchment levels.

All ground units are capable of further entrenchment in addition to the base entrenchment level of the terrain they occupy, but they do so at different rates. Table 4-2 shows unit entrenchment rates.

Table 4-2

Unit Entrenchment Rates

Unit Type	Entrenchment Rate
Infantry	3
Anti-Tank	2
Artillery	2
Air Defense	2
Reconnaissance	2
Tank	1
Anti-Aircraft	1
Forts	1

Notice that weather has no effect on unit entrenchment rates.

Units that do not move automatically entrench further based on the following entrenchment formula until they reach the maximum entrenchment level for the terrain type they occupy (see Table 4-1). This increased entrenchment occurs even if that stationary unit attacks, takes on replacements, etc.—*as long as it doesn't move!* The current level of entrenchment is calculated as follows (entrenchment level and entrenchment rate are shown in Table 4-1 and Table 4-2, respectively):

> Specific unit's base entrenchment rate x (terrain's base entrenchment level +1)

The result is the total number of entrenchment points that unit earns for the turn.

An artillery unit that remains stationary in a forest hex, for example, would generate 2 x (3 + 1), or 8 entrenchment points per turn.

Entrenchment points accumulate from turn to turn as long as a unit remains stationary. When a unit's entrenchment point total increases to 9 or greater, it gains another entrenchment level and 9 entrenchment points are subtracted from its entrenchment point total.

Units can entrench a maximum of five levels higher than a terrain type's base entrenchment level (as shown in Table 4-1). Each time a unit is attacked, its entrenchment level is reduced by one after any combat results take effect.

Naturally, when a unit moves out of a hex in which it was entrenched, it loses all its entrenchment levels and accumulated entrenchment points.

Experience

This number represents that unit's accumulated experience. It takes 100 experience points to gain an experience level, as represented by a gold star on that unit's summary information. The maximum number of experience levels a unit can achieve is 5, although it can gain more than 500 experience points (which can be important when you're adding normal replacements to a unit, because they dilute the average experience level).

Gaining Experience

A unit gains experience points whenever it takes part in (and survives) a battle with another unit. Even bombarding artillery and capital ship units improve their experience with every long-range shot they lob, but they do so more slowly than when units engage in combat directly. The formula for the number of experience points a unit gains in battle is given below. The better a unit performs in battle, the more experience points it gains.

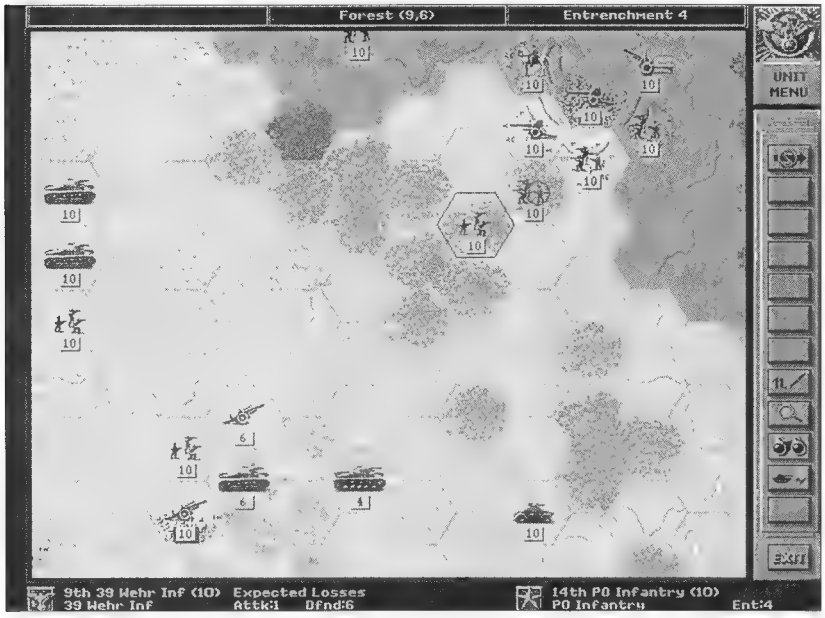


Figure 4-3. In a matchup of roughly equivalent units, in terms of both strength and equipment, experience can be the decisive factor in determining the victor.

To determine the amount of experience a unit gains from a given engagement, the program goes through a three-step process. We present the final equation first and then show you how each variable is determined:

Base experience points earned x present experience multiple = final experience points earned

Units accumulate base experience points as follows:

15 per attack for level bombers

2 per friendly strength point lost (the survivors wise up quickly!) plus any kills experience (for killing enemy strength points)

The following formula shows how to determine kills experience. **Warning:** This formula is tricky—feel free to skip it if you have a serious aversion to mathematics.

The key to the formula abbreviations used in the table is shown after the formula.

Step 1: Calculate (6 + enemy Astrength – friendly Dstrength x (enemy on-line / 10)). (**Note:** This value is automatically 0 when you're conducting a ranged attack.)

Step 2: Add (6 + enemy Dstrength – friendly Astrength) to the value of step 1.

Step 3: Adjust the total obtained in step 2 so that it is at least 1 (if it was less than 1) or no greater than 15 (if it was more than 15).

Step 4: Multiply the adjusted number from step 3 by the number of enemy strength points killed (*not* suppressed!). The result is the number of experience points added to the base experience points earned by the unit in that battle.

Astrength is the unit's attack strength versus the appropriate target type.

Dstrength is the unit's appropriate defense strength versus the attacking unit type. (**Important:** If this value is 0, treat it as 1 for purposes of this formula.)

On-line is strength points actually firing (that is, excluding strength points that were suppressed, unsupplied, reduced for mud, etc.)

Ranged attack is an attack conducted by any unit with a firing range greater than 0, such as artillery, air-defense, and many naval units.

All base experience points that are earned are added together and multiplied by the unit's Ability To Learn multiple, as determined from Table 4-3.

Table 4-3

Experience Multipliers

Unit's Present Experience Level	Ability to Learn Multiplier
0 or 1 star	2/3
2 stars	1/2
3 stars	2/5
4 stars	1/3
5 stars	1/4

Note: The more experienced a unit becomes the greater difficulty that unit has in gaining additional experience. In other words, it is very tough to confront veteran troops with situations they have not encountered before. This change is reflected in the game by decreasing the fraction of the experience point multiplier as experience levels rise. As such, it is also much less likely that they will learn something new if they reach the elite, five-star level.

The final result is the actual number of experience points, rounded up, that the unit has earned in that battle. Because this discussion has been unavoidably lengthy in order to establish all the values, we put things in practical terms by using a salient example.

A 13-strength-point German Panther G tank unit (with a soft attack strength of 11 and a ground defense strength of 18) that has four levels of experience attacks a fresh, Russian SMG Infantry unit that has 10 strength points (with a hard attack strength of 2 and a ground defense strength of 5) and no experience whatsoever. Although the battle is fought over open terrain and the defending infantry has no defensive artillery support, the ground is muddy, which nearly halves the attacking Panther tanks' strength from 13 to 7.

There is no contest for initiative (as described later in this chapter) to see who shoots first, and the Panthers blast away, inflicting three casualties and two suppressions against the Russian SMG Infantry unit. The five Russian strength points that can shoot back have no effect on the Panthers.

The Russian SMG Infantry unit, for its part, would receive 6 base experience points (for its three casualties) multiplied by 2/3 (for having no experi-

ence levels). The final value is 4 experience points earned.

The Panthers, however, are not much better off. For destroying three Russians, they earn kills experience according to the formula:

Step 1: ((6 + 2 – 18) / 5/10), or –5

Step 2: + (6 + 5 – 11), or 0, which brings the total to –5

Step 3: –5 is adjusted to +1 (the minimum). This value is multiplied by 3 for the number of Russian strength points actually killed.

The base experience points earned by the Panthers, therefore, is only three. Because they had four experience levels, their Ability To Learn multiplier is 1/3, and one-third of three nets the Panthers only a single experience point!

Effects Of Gaining Experience Levels

Experience levels (the number of gold stars completely filled) affect several important elements:

- The relative experience levels between two units influence who shoots first when they fight (see the "Initiative" section, later in this chapter).
- The relative experience levels between two units also modify the battle's casualties (see Chapter 5).
- Experienced troops are less likely to face a rugged defense when they attack (see Chapter 5). This is not a relative experience measure, as the preceding two items are. Wizened (experienced) attackers are far less likely to fall into traps and, therefore, be subject to a defender's rugged defense opportunities.
- Experience levels also allow a unit to become oversized (see the "Strength" section).

Losing Experience

Experience points are lost when an under-strength unit receives normal replacements. Because normal replacements have 0 experience points, when these units are merged with an experienced unit, their combined experience level is average. The following formula is a handy way to do the math for yourself.

Here's the experience point dilution formula (used when an experienced unit receives normal replacements):

Current unit strength x experience points = gross experience points

Gross experience points / new unit strength (which is usually 10) = new experience points

A unit with 150 experience points, for example, has only three strength points, giving it 450 gross experience points according to the preceding formula. When 7 strength points of regular replacement bring the unit up to a strength of 10, those 450 gross experience points get divided by 10, leaving the newly replaced 10-strength unit with 45 experience points. It's really very simple.

WAR LESSON: Despite the fact that Elite replacements cost four times the number of Prestige Points as normal replacements do, they do not dilute a unit's experience level below its current value. See Chapter 5, "Combat and Tactics—When Units Collide," and Chapter 6, "Matters of Prestige," for information about replacements and Prestige Points, respectively.

Strength

Units usually begin a scenario with 10 strength points, which is every unit's base maximum strength (the strength a unit is brought up to in one turn by way of replacements, if you have the Prestige Points to pay for them). Chapter 5 fully discusses replacements. Unit strength values range from 1 to 15 during the course of a game. When battle losses reduce a unit's strength points to 0, it is destroyed.

Experienced units can have their maximum strength increased beyond the base maximum strength level of 10. Experienced units can increase their current maximum strength level above 10 by 1 per experience level (earned per 100 experience points and symbolized by a gold star), to a maximum of 15 strength points (5 experience levels). Units add these *over-strength points* (strength points beyond the base maximum of 10) at a rate of 1 per turn by selecting elite replacements. If an over-strength unit is reduced, rebuilding the unit back to over-strength status must be done by the same slow method. It is often worth the delay in building over-strength units because they are particularly deadly in combat.

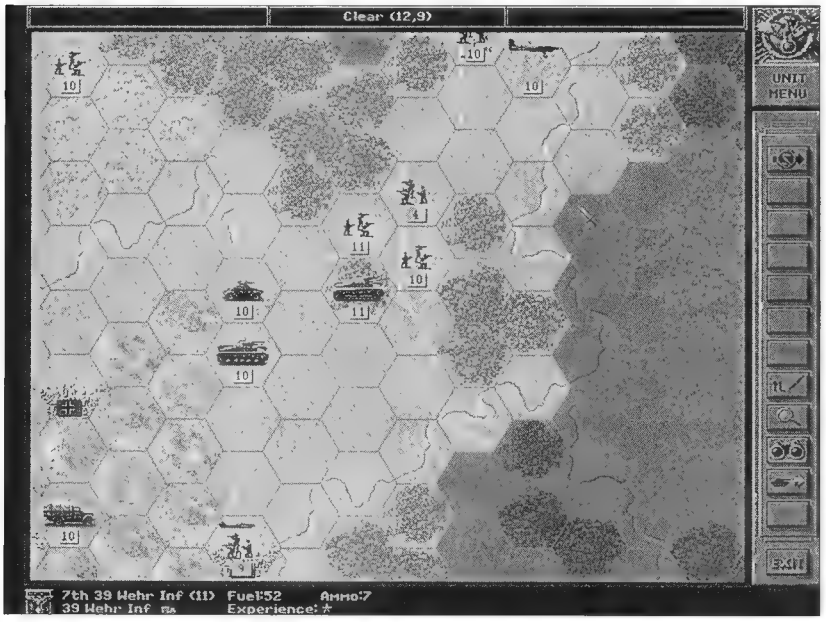


Figure 4-4. One of the greatest benefits of building experienced units is that you can also create over-strength formations, adding one strength point above the norm of 10 for each experience star that is completely filled.

Kills

This is the number of enemy units this unit has destroyed in the current scenario or over the course of an entire campaign (when playing a campaign game). It has no effect on game play and is provided merely for reference.

The kills number does not include units that were seriously wounded (even if you knock a 15-strength enemy unit down to a 1, it's not dead and therefore does not get tallied here), nor does it factor in how many strength points were eliminated in inflicting the *coup de gras*. It counts only the number of times this unit attacked an enemy unit that resulted in that enemy unit's elimination from the game.

Suppression

This number represents a more permanent suppression result than the one normally obtained in combat by the first unit to fire in an exchange against the second unit to fire (see Chapter 5). Suppressed strength points, as shown by this number, are not used to shoot back at enemy units during that turn.

Normally, suppressed strength points are temporary and apply only between the two particular units currently in a fight. The number on this particular screen represents *suppression caused by level bomber attacks against this*

unit. Although they seldom inflict damage on a unit, level bombers can usually suppress a few points, and this specific suppression affects that unit in every battle it fights *for during the remainder of the opponent's turn in which this level bomber suppression was inflicted.* Defending units whose suppression number from level bomber attacks is greater than or equal to their current strength, retreat, or, if unable to, surrender (see Chapter 5).

Figure 4-5. The German ultimatum ordering the Dutch commander of Rotterdam to cease fire was delivered to him at 10:30 a.m. on May 14, 1940. At 1:22 p.m., German bombers set the whole inner city of Rotterdam ablaze, killing 30,000 of its inhabitants. Aerial view of the ruins of Rotterdam *(courtesy of the National Archives and Records Administration).*

Suppose that you send out a level bomber to suppress a city you plan to assault during this turn. Sure, it might cost the opponent a few Prestige Points (see Chapter 6), but it might also suppress some strength points for the unit defending that city. In all your attacks against that unit for the remainder of

your turn, it fights without the benefit of the number of strength points you suppressed!

Transport's Current/Maximum Fuel

If the current unit has organic transport, such as trucks or half-tracks, the number to the left of the slash mark indicates the current fuel level of that organic transport, and the number to the right equals the maximum fuel level. If a unit wants to continue moving on foot after its organic transport is out of fuel, it can't. In *Panzer General*, a unit can abandon its organic transport only when attempting to enter an air transport. Assigning organic transport to your infantry units and towed guns, therefore, makes them as susceptible to out-of-fuel penalties as all your other land vehicle units. *This includes* a unit being able to shoot at only half-strength (rounded up) when it is sans petrol.

Battle Honors

During a campaign game, units can earn various battle honors. These are awarded for reaching experience point plateaus during the course of a scenario. An experience point plateau is reached whenever a unit's experience tops the next 100-point tier.

A *campaign ribbon* (a simple listing of that scenario among the unit's battle honors) is awarded when a unit's experience during that scenario has raised it to the next 100-point tier. A unit that began the scenario with 271 points, for example, would earn its campaign ribbon after racking up at least the additional 29 points required to put it at 300.

An *eagle* (medal) is earned for achieving two 100 experience point tiers during a single scenario; a *double eagle*, the highest award possible, is earned for achieving three 100 experience point tiers during a single scenario. This award appears instantly on the unit's information screen and cannot be rescinded, even if the unit takes on normal replacements to the point where it drops below that tier again.

Unit Statistics

A unit's permanent statistics are shown on the right half of the Unit Information screen, as shown in Figure 4-1. These values correspond with the unit equipment tables in the back of the *Panzer General* game manual. This section explains what each of the data fields mean.

Unit Type

The first thing you see listed is the exact type of unit being examined, such as Pioneer Infantry or JU87B.

Class of Unit Equipment

Beneath the specific unit type is the class of equipment it features, such as tank, artillery, infantry, artillery, capital ship, etc. These classes are listed and elaborated on in the following sections.

Ground Classes

Anti-aircraft, or AA, units are used to respond quickly to nearby enemy air units. Unlike air defense units, AA units may fire and move or vice versa and can also attack ground units. Also unlike air defense units, *AA must be in the same hex as enemy air units in order to attack them!*

Anti-aircraft units can keep up with a quick-moving attack force and might even be able to assist in mopping up enemy infantry. SdKfz series AA units are soft targets and require considerable protection when you use them.

Air defense units, like artillery units, have the weakness of not being capable of attack after they have moved, but they do enjoy ranged attacks and a defensive fire capability when adjacent land units are hit by enemy air units. Unlike artillery, though, they cannot attack ground units.

Air defense units should be used for defending relatively stationary ground units against enemy air power. This makes them particularly useful in defensive battles. In conducting an offensive, air defense units should deploy with forces massing up before an assault to prevent enemy air power from freely disrupting troop concentrations.

Anti-tank (AT) units have two subcategories of anti-tank (AT) units: towed and self-propelled. Self-propelled AT guns are colloquially known as tank destroyers (TDs).

Towed AT guns are defensive in nature, particularly when they're well-entrenched. Because they are vulnerable while being towed, like any towed gun, they are of little value in conducting a mobile attack. They are also cheap to purchase.

Tank destroyers, however, are more useful on the attack and are much cheaper than tanks with equivalent guns. Unfortunately, TDs lack the rotating turrets that tanks have and are less well-armored (hence, their low cost).

What does this mean to *Panzer General* players?

In practical terms, TDs have to rely on their relatively high initiative ratings to get in the first shot when they're defending against enemy tanks. *TDs always fire second, however, when they're attacking tank or recon unit types!*

Figure 4-6. A U.S. Infantry anti-tank crew fires on Nazis who machine-gunned their vehicle, somewhere in Holland. W. F. Stickle, November 4, 1944 *(courtesy of the National Archives and Records Administration).*

Because of this, don't use TDs to attack tank or reconnaissance units unless they are already seriously weakened and won't harm the TDs with their first shot. As the manual states: "The key to TD tactics against tanks is moving offensively but fighting defensively—rather than attacking enemy armor, move TDs into positions where the enemy armor is forced to attack you. For example, while your tanks strike deep through enemy lines, TDs can be used to block enemy armored counterattacks on the flanks of the advance. Although their intended purpose is to fight tanks, TDs also make excellent tank-substitutes for overrunning other, non-tank troop types."

Artillery units, like anti-tank units, come in two flavors: towed and self-propelled (self-propelled artillery units are often known by their acronym, SPA). Because both types are relatively vulnerable on the battlefield, the difference is less important. The main advantage of SPA units is that they don't have to mount and dismount, like towed guns do. The main weakness of both types of artillery is that *they cannot attack after moving.*

Figure 4-7. American howitzers shell German forces retreating near Carentan, France. Franklin, July 11, 1944 *(courtesy of the National Archives and Records Administration).*

It is the artillery's job primarily to bombard enemy units from a distance (usually two to three hexes away), often in support of other friendly troops. Artillery is always better suited for hitting soft targets than hard ones.

On the offensive, artillery should be used to soften up enemy strong points before they are assaulted. Even if they should fail to reduce the enemy's strength, each attack automatically reduces the defender's entrenchment level by one, which can be crucial (see Chapter 3, "Operational Analysis," and Chapter 5, "Combat and Tactics: When Units Collide").

Defensively, artillery makes a good "second line" unit because it can conduct preemptive defensive fire when adjacent friendly ground units are targeted for a ground attack. In this position, second-line artillery is most effectively poised for both offensive and defensive operations.

The odd birds in the artillery nest are the so-called assault guns. These guns include the German StuGIIIb and StuG IV, plus the Italian Sem M-40 and Sem M-42M. What sets these artillery units apart is their limited 1-hex firing range. Fortunately, these units are among the better-armored of the SPA units, and so they can close a hex next to an enemy position they want to bombard during the next turn with some hope of survival. Remember that, when they bombard, they don't get shot back at.

Assault guns *can*, however, fire at what appears to be a 2-square range when conducting defensive fire for adjacent friendly ground units under

attack. Technically, you see, they're only firing into the adjacent friendly unit's hex, lobbing protective fire in front of their own troops. This capability makes these reasonably powerful artillery units great for supporting fast-moving, offensive operations because they can really blunt enemy counterpunches.

By using these techniques of closing in and trusting their armor or staying in a defensive-fire artillery support role, assault guns remain viable units right up until the end of the war. After all, they're never supplanted by newer-model assault guns with a longer range as most other artillery units are.

The *fort*-class unit type is also divided into two subcategories: true "forts" (heavily fortified positions) and "strong points" (regular field fortification networks). Both these fort unit types have strong attack strengths and lots of ammunition, so use them liberally to attack any target that ventures next to them! For additional details about assaulting and defending from these prepared positions, see Chapter 5.

Infantry, like ice cream, comes in many flavors. These slow, plodding formations are the backbone of any army. They specialize in fighting over cities, forests, and other difficult terrain because they don't suffer the penalties there that most other classes do.

Figure 4-8. Men of the 8th Infantry Regiment attempt to move forward and are pinned down by German small arms from within the Belgian town of Libin. Men seek cover behind hedges and signs to return the fire. Gedricks, September 7, 1944 *(courtesy of the National Archives and Records Administration).*

While in open terrain, infantry units are particularly vulnerable to artillery fire and armored vehicles. They are hard to kill in well-entrenched defensive positions however, unless they are attacked by other infantry unit types with artillery or air support attacking in coordination against them.

Engineer types include engineers, bridging engineers, and pioneer units. These types should be your shock troops when you're assaulting heavily entrenched positions because special training and equipment (as denoted in their higher unit price) makes them impervious at all times to enemy rugged defenses!

Bridging engineers (those with icons showing them carrying around a bridge) become *de facto* bridges for other friendly units while dismounted in a river hex. Other friendly units can pass right over these engineer *cum* bridges without stopping for the river. Lugging around bridging equipment doesn't make them any less effective than non-bridging engineer/pioneer units in battle.

Paratroops and rangers are lightly armed, highly trained infantry unit types. They are capable of paradropping from air transports into any vacant non-ocean, non-occupied (except by an air unit) hex adjacent to where their air transport began its turn. They are subject to "scatter" when they drop in this way (see Chapter 3, "Operational Analysis"). Other infantry unit types (plus light artillery and light anti-tank guns, as defined in Chapter 3, in the "Air Transport" section) that hop on an air transport can disembark only at empty air bases (either friendly *or enemy—thus seizing them!).*

Heavy weapons units have higher attack values than ordinary infantry. This makes them better-suited for assault roles, but they move more slowly than normal infantry units do (see Chapter 3). For that reason, be sure to get these boys some transports, particularly half-tracks (because they'll be in the thick of most fighting).

Cavalry units during World War II did not fight while mounted. Instead, they were actually mounted infantry. Although they have relatively low combat values, their high mobility without the need for organic transport makes them a worthy consideration for purchase.

Recon units consist primarily of speedy armored cars, and they boast superior spotting ranges of between three and five hexes. Spotting unknown enemy units is crucial when you're using the realistic spotting rules, and these reconnaissance units can find them a long way off. This makes them particularly useful on the offensive. Reconnaissance units should slip through breeches in the enemy's lines and roam around, serving as torches to illuminate hid-

den enemy units. This capability helps the units that follow them to avoid traps and advance in a manner prepared to meet the enemy's known defenses.

These armored cars can also seize control of objectives such as cities and air bases. They might even be able to hold them temporarily while heavier units come up to secure those objectives. Reconnaissance units can also pick off the occasionally weakened or vulnerable enemy units (such as those mounted on transports), and they often have the juice (movement points) to reach them from a great distance.

Tanks provide the game's sex appeal. Because of their speed, armor, and heavy weaponry, tanks can usually play it pretty aggressive and still survive.

Figure 4-9. Yanks of the 60th Infantry Regiment advance into a Belgian town under the protection of a heavy tank. Spangle, September 9, 1944 *(courtesy of the National Archives and Records Administration).*

Although tanks are great at fighting out in the open, they are vulnerable to infantry unit types in cities, forests, and rough terrain. Furthermore, tanks can be shredded by anti-tank guns and tank destroyers, and they make fine targets for enemy tactical bombers. The key to using tanks effectively, therefore, is to use them in combined-arms groups, with infantry support and air cover to keep the tanks' natural enemies at bay.

The *truck/transport* class includes trucks, half-tracks, and a few fully tracked vehicles used as organic transport (that is, it is specifically assigned to

a unit and cannot be shared). Organic transport is useful for giving otherwise slow infantry and towed guns greater mobility.

Unfortunately, while these units are mounted, they use the extremely weak combat values of their organic transport, making them easy to destroy. Trucks in particular should be protected from enemy attacks at all times.

Although trucks are cheaper and faster on roads, half-tracks are more survivable (making them better-suited for the more expensive unit types requiring transports) and move quickly through difficult terrain. Any infantry unit type (except the engineer type) that includes organic transport cannot enter mountain hexes.

Air Classes

Air superiority is required to make *blitzkrieg*-style combat possible, and the *fighter* is the tool by which air superiority is obtained. Naturally, their primary job is as a hunter to shoot down enemy air units of all types.

Fighters also have two secondary roles. The first is to escort bombers and air transports. Fighters provide defensive fire for these units when they are adjacent to them in much the same way as artillery does for ground units. **Exception:** Each fighter gets only *one* defensive fire shot per enemy game turn. Fighters can also strafe infantry, artillery, and transport units with some effect and help soften up entrenchments, but their primary mission remains to clear the skies of enemy fighters and enemy bombers. Losses in fighter combats are typically heavy, so getting the first shot through superior initiative and experience is critical.

Level bomber units represent high-altitude, long-range bombers. Their high-altitude attacks are simulated in three ways. First, they can attack only the hex they're in. Second, only enemy anti-aircraft and air defense ground units can fire back at level bombers (whereas ground units with an air attack strength can inflict damage on fighters and tactical bombers when they're attacked by them). Third, their high-altitude attacks give them generally poor bombing accuracy.

Level bombers have two special capabilities when they attack. First, when they attack a land unit, they do so by using normal combat routines (for example, comparing their soft or hard attack strength to the defender's air defense strength), but any suppression results they achieve against it remain for the duration of the bombing player's turn. Normally, suppression results disappear

right after two units fight each other (see Chapter 5, "Combat and Tactics: When Units Collide").

Successful attacks by level bombers against ground units also reduce the target's fuel and ammo points according to the level bomber's accuracy rating (see Table 4-4). Therefore, try to have your level bombers attack enemy units at the *beginning* of your turn, especially to soften up enemy strong points that will be subject to repeated attacks during this turn. If they can suppress a few strength points, that could add up to much less firepower the rest of your forces will face throughout your turn as they continue to assault that position. Level bombers tend to suppress more enemy strength points than they kill (again, see Chapter 5).

The second special capability of level bombers comes into play when they conduct strategic (also referred to as "carpet") bombing of enemy cities, ports, and airfields. When these attacks are successful (which is problematic; see Table 4-4 to determine the accuracy ratings for each type of level bomber), it has the double effect of lowering the enemy's Prestige Points and possibly wrecking the target (making it uncontrolled, which is symbolized by the removal of its ownership flag).

Table 4-4

Level Bomber Accuracy

Accuracy	Level Bomber Type Light	Medium	Heavy
Base accuracy	20	30	40
Per unit strength point less than 10	–2	–3	–4
Per unit strength point greater than 10	+2	+3	+4
Per level of experience	+10	+10	+10

The final accuracy number is halved during overcast weather. The final accuracy number is also halved when the enemy city, port, or airfield is occupied by an enemy unit (although this does *not* halve the accuracy number when determining the unit's loss in ammunition and fuel!).

The final accuracy number *can* be halved twice when targeting an enemy city, port, or airfield occupied by an enemy unit during overcast conditions.

The final accuracy number is the percentage chance of successfully hitting enemy cities, ports, and airfields. When successfully hit, non-victory objectives are wrecked (symbolized by having their control flag removed), while victory objectives reward the attacking player by detracting prestige from the enemy.

When the target is an enemy land unit, the final accuracy number also gives the percentage of ammunition and fuel it loses based on the target's respective maximum values. (**Exception:** An enemy land unit's last ammunition and fuel points cannot be destroyed by level bombers).

An installation (city, port, or airfield) wrecked by level bombing can be "captured" (reclaimed and instantly rebuilt) only by dismounted infantry type units. The flag reappears to show the player's control, exactly as though it were conquered in the normal manner.

The *tactical bomber* air unit class comes in two varieties: true tactical bombers designed exclusively for ground attack missions and fighter-bombers. This distinction becomes clear when you examine their air combat strength. Numbers bracketed [like this] symbolize a value that can be used only defensively, to fire back when this unit is attacked (by another air unit, in this case). An example of this type of aircraft is the German JU87 series. Tactical bombers without a bracketed air attack strength are in fact fighter-bombers capable of launching their own attacks against enemy air units. These units include the German BF110 series.

Tactical bombers are useful against any target, including the ones that are more difficult to hit, such as submarines, tanks, and anti-tank units. True tactical bombers are made for pounding an enemy unit and inflicting lots of damage.

Fighter-bombers are neither the best fighters nor best bombers. Their multi-role function provides an important limitation: Fighter-bombers can't escort other airplanes and render defensive fire in their support! Instead, like true tactical bombers, fighter-bombers often have to be escorted by fighters as well. Even though they are better at fighting air-to-air battles than true tactical bombers and level bombers are, you should still consider protecting them when the enemy might have fighters around.

Sea Classes

Over the course of naval history, the ship-building programs of virtually all nations have consolidated around a few basic hull types. Each is specific in its purpose and by nature is more capable in one area of naval warfare than in

another. This section helps you understand the basic unit types, and the strengths and weaknesses associated with each one.

Capital ships include battleships, battlecruisers, heavy cruisers, and light cruisers. They are distinguished by their capability to attack at much greater ranges than ground-based units can. Like normal, non-artillery units, capital ships may move and shoot in either order. To help ensure their own survival, and subsequently be available for support of the ground war, their primary objective in every scenario in which they appear is to gain naval supremacy.

After the seas are safe for your fleet, your capital ships can concentrate on lending support to your ground troops by conducting a steady stream of shore bombardment near the coastline. Shore bombardment is particularly brutal against soft targets.

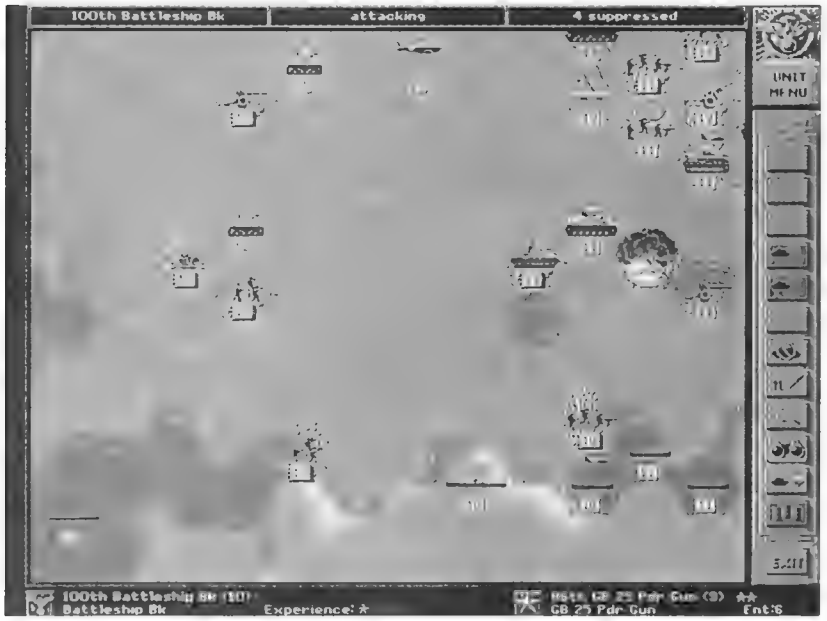


Figure 4-10. After you have achieved control of the seas, naval firepower can be concentrated decisively on any enemy units foolish or unlucky enough to be operating near the coastline.

Also, it is important to note that, in a sea battle, capital ships shot at by other capital ships are entitled to shoot back by way of a ranged attack! This long-range gunnery exchange is resolved in the normal manner (see Chapter 5), with the exception that the attacking unit *always* retains the initiative.

WAR LESSON: When the enemy has you outmatched in sea power, start using your air force against its navy, particularly your tactical bombers with high sea attack values. You can usually sink or at least reduce bombarding enemy capital ships in this manner.

Behold, the *carrier!* This ship functions as sort of a floating airfield, but with some severe limitations. First, carriers can only resupply (and give replacement points to) air units *that begin their turn* in the same hex as the carrier. Second, they can service only fighters and tactical bombers (level bombers cannot operate from carriers).

At sea, carriers have excellent spotting ranges of 5. Unfortunately, because of their vulnerability to all manner of air and naval attack (not to mention their high prestige value), they make such tempting targets that carriers are nicknamed "bomb magnets." As a rule of thumb, therefore, if you own a carrier, protect it; if you spot an enemy carrier, sink it!

Destroyer-class ships consists of destroyers, destroyer escorts, patrol craft (S-boats), and torpedo boats (T-boats). The latter two types are most notable for their extremely limited supplies of ammunition (usually only 1 or 2 ammo) and fuel (usually only 60 fuel points). T-boats and S-boats, therefore, often have to make frequent stops in port, assuming that they survive any tangles with an enemy fleet. Unfortunately, destroyer-class ships are easily destroyed by enemy capital ships because capital ships can fire on destroyers at long range without risking immediate retaliation.

All destroyer types have a range of 0 and therefore have to close with an enemy because they can't shell them at range. Their torpedoes, however, give them fairly high naval attack strengths at this close range. Ships in this class also tend to have high movement rates of 6 and 7. This, combined with their spotting range of 2, makes them good lead ships to serve as the eyes of your fleet.

These destroyer class ships are the only ones capable of attacking submarines. Destroyer-class ships always attack first against submarines when they attack during their own turn. Combined with tactical bombers (the only other unit type that can shoot at submarines), they can form effective ASW (anti-submarine warfare) groups. Perhaps the best use for destroyer-class ships, along with being scouts, is to employ them as screens to protect capital ships and carriers from marauding submarine attacks.

In the great game of scissors-rock-paper that is naval warfare, *submarines* are the right tool to use against enemy capital ships and carriers because those ship

types are unable to return fire. Submarines are the slowest units at sea with their movement rate of 3, but they have a pretty good spotting range, which is also 3.

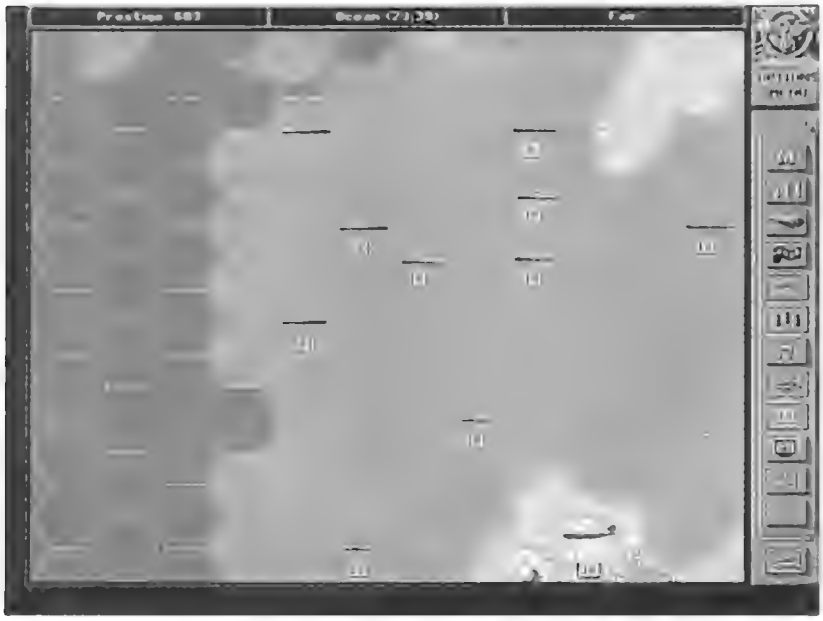


Figure 4-11. Use destroyers and patrol boats as the eyes of your fleet, seeking out enemy capital ships for subsequent engagement by your U-boats.

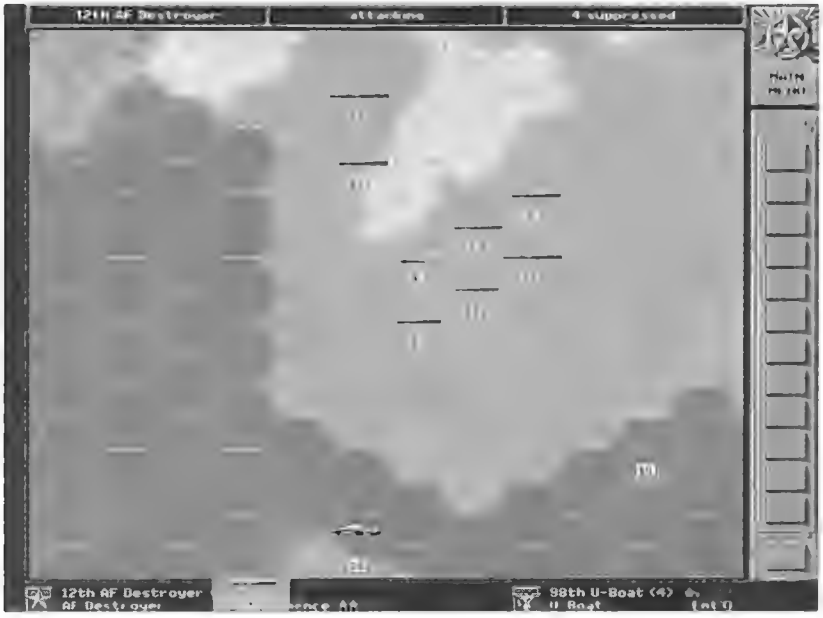


Figure 4-12. One of the most effective methods of dealing with enemy submarines is to surround and pin them, such that they cannot move outside your zones of control in a single turn and are subjected to multiple attacks. Eventually, their luck at diving or evading your ASW attacks will run out.

Submarines enjoy two advantages because of their stealth. First, they always shoot first when they attack during their own turn. Second, when submarines are fired on, there is a chance that they'll evade the attack completely by submerging. (They have a 50 percent chance to evade enemy destroyer-class ship attacks, and a 75 percent chance to evade enemy tactical bomber attacks.) When they fail to evade an enemy attack, however, severe damage is certain. Their incredibly low defense rating of 2 has earned them the nickname of "floating coffins."

Additional Naval Notes

Ships tend to have extremely high capacities for both ammunition (usually 30 or 40 ammo) and fuel (usually 200), and seldom have to put into port to rearm or refuel during a given scenario.

Because of their slow repair times (they can take on replacements at the rate of only one or two strength points per turn) and the usually limited number of ports available to repair ships, it is often better to keep crippled ships working at sea rather than take the time to haul them back to a vacant port and repair them.

Also, you should be aware that ships can only put into friendly ports that have no friendly ground troops in them. (Ship and land units cannot stack together, even in a port. When a land unit captures an enemy port where an enemy ship resides, that ship automatically retreats to sea, if it's able. If it's unable to retreat, that ship is scuttled in port and destroyed.)

In a campaign game, ships are always auxiliary units. They cannot be purchased, but they have considerable prestige value when they're sunk. Because of this, if you find any of your ships in danger of being sunk by the enemy and there is no avenue to retreat them back to friendlier waters, it is better to scuttle the ship outright (via the Disband Unit icon on the main menu) than to "give" the Prestige Points to the enemy by allowing him to finish it off.

Cost

Cost is the amount of Prestige Points required to buy a new unit of this type from scratch (see Chapter 6, "Matters of Prestige"). Please note that, when a unit is destroyed, the enemy receives the value of that unit (taken from the tables at the end of the game manual) in prestige for its own use. This value is always equal to one-tenth of the original cost of the unit.

Type of Movement/Movement Allowance

The type of movement indicates the method of movement this unit type uses. The different ways in which units can move are shown in this list:

Leg

Towed

Wheeled

Half-tracked

Tracked

Off-road

All-terrain

Naval

Air

The movement allowance is the amount of movement points that unit can spend during each turn (if it has sufficient fuel). Every hex entered expends at least one, and possibly more, movement points. See Chapter 3, "Operational Analysis," for the detailed effects of terrain and movement.

Spotting Range

Spotting range is the range at which a unit can spot enemy units in fair weather. Air units have their spotting ranges halved (rounded down) during overcast conditions and reduced to one hex when it is raining or snowing. All non-air units have their spotting ranges reduced by one during overcast conditions and halved (rounded down) when it is raining or snowing.

Combat Range

Combat range is the unit's shooting range in hexes. If this value is greater than 0, that unit can engage enemy units "at range" without the target unit being able to fire back (an exception is when capital ships fight; see Chapter 5, "Combat and Tactics: When Units Collide"). Units with a 0 range technically enter an enemy unit's hex (temporarily) and engage it in battle. They are therefore fighting at very close range when they do.

Initiative

In combat, initiative (along with both units' experience levels and the type of terrain the defender is occupying) influences who shoots first during a battle or whether both units shoot simultaneously. Specifically, this section describes how each unit's actual initiative is determined and how these adjusted values are compared to see who shoots first.

Both units begin with their respective listed initiative numbers. If either of these is *greater than* the Initiative Cap value for the defending unit's terrain type, then that unit's initiative value is automatically reduced to the Initiative Cap value. These values are presented in Table 4-5.

Table 4-5

Initiative Cap Values for Defender's Terrain

Terrain Type	Initiative Cap Value
City	1
Forest, Bocage, Fortifications	3
Swamp	4
Rough, Port Facility	5
Mountains	8
All other types	99

Note that city terrain, with its low Initiative Cap value, is the great equalizer between defending infantry units and 0 range attacking units of all types.

After both sides' unit initiative values are reset based on the terrain type occupied by the defending unit, their experience levels are checked, if necessary. Experienced units gain an increase in their initiative, as listed in Table 4-6.

Table 4-6

Initiative Increases for Unit Experience

Unit Experience	Amount of Initiative
No stars	+0
1 to 2 stars	+1
3 to 4 stars	+2
All 5 stars	+3

The result of the preceding two tables gives each unit's base initiative value for combat with the following exceptions:

- If a submarine or capital ship is involved in combat and it is not a surprise contact (see Chapter 5), the attacker's initiative is automatically reset to 99 and the defender is reset to 0.

- If an anti-tank unit type attacks (initiates combat during its own turn) a tank or reconnaissance unit type, the anti-tank unit has its initiative rest to 0 and the defending unit's initiative is reset to 99.

- If a rugged defense, out of the sun, or surprise contact occurs, the moving unit or attacker's initiative is reset to 0.

- If an air unit attacks an air defense unit (not an anti-aircraft!), the air unit's initiative is automatically reset to *equal* the initiative rating of the enemy unit, regardless of a rugged defense, initiative limits, or experience levels.

Finally, *in all cases*, the result of a d3 is added to each unit's base initiative value, rolled separately for each unit. The unit with the highest final initiative value shoots first, or, if their values are identical, they shoot simultaneously. This d3 die roll can make battles between units with base initiative values within two points of each other dicey propositions.

Example: A tank unit with an initiative value of 6 and an experience level of 3 attacks a city containing an enemy infantry unit with an initiative level of 0 and an experience level of 1. Because the Initiative Cap value of the city is 1 (see Table 4-5), the tank's initiative value is adjusted to 1, and the infantry unit's initiative remains unadjusted at 0.

Next, both units have their initiative values modified for their experience levels (see Table 4-6). The tank unit receives a +2 modification, bringing its base initiative value to 3. The infantry unit receives a +1 modifier for its single experience level, raising its 0 value to a 1. Currently, then, the initiatives stand at 3 for the tank and 1 for the infantry unit. It's looking bad for the infantry . . . .

Finally, both sides always have a d3 rolled separately for them. Table 4-7 gives the probabilities for relative initiative adjustments based on the d3

die rolls. In this example, the tank unit rolls a 1, and the infantry unit gets a 2 result. This makes the final initiative values 4 for the tank and 3 for the infantry. The tank unit shoots first, inflicting losses on the infantry unit it will suffer before it fires back at the tank.

Figure 4-13.
A Nazi soldier, heavily armed, carries ammunition boxes forward with companion in territory taken by their counteroffensive in this scene from captured German film. Belgium, December 1944 *Courtesy of the National Archives Records Administration*

Table 4-7.

Initiative d3 Die Roll Probabilities

Net Result	Probability
Attacker +2	11 %
Attacker +1	22.5 %
No Changes	33 %
Defender +1	22.5 %
Defender +2	11 %

These percentages have been rounded.

Soft Attack Strength

Soft attack strength is a unit's combat strength versus "soft targets" (infantry, cavalry, trucks, towed weapons, etc.). Units with bracketed strengths may not attack soft targets, but will shoot back if attacked by them.

Hard Attack Strength

Hard attack strength is a unit's combat strength versus "hard targets" (tanks, half-tracks, self-propelled guns, etc.). Units with bracketed strengths may not attack hard targets, but will shoot back if attacked by them.

Air Attack Strength

Air attack strength is a unit's combat strength when combating enemy air units. Units with bracketed strengths may not attack enemy planes, but will shoot back if attacked by them.

Naval Attack Strength

Naval attack strength is a unit's combat strength versus enemy ship types.

Ground Defense Strength

Ground defense strength is the defense value a unit uses against both land and naval attacks. Yes, ships use this value in defending against attacks from land *and sea.*

Air Defense Strength

The *air defense strength* value is used against all attacks from air units.

Close or ASW Defense Strength

Units use their close defense value in desperate situations in which the fighting will be tight. Close defense values are always used for the attacker when assaulting mountain, forest, or city hexes defended by dismounted enemy infantry. If the attacker is also infantry, the defending unit must use its close attack value as well. **Exception:** If the defender obtains a rugged defense result from his die roll, he is not forced to use his close defense numbers when he's attacked.

Naval units have an ASW defense strength listed here in lieu of a close defense strength. It works the same way, though, applying in cases in which a

moving player's ship stumbles into an unseen enemy vessel, thus making a surprise contact. It is also the value that destroyers use when attacked by submarines.

This defense strength is inferior to a unit's other defense strengths and is used only for the preceding listed special circumstances when a unit is at a distinct disadvantage in battle.

Target Type

Only four different target types are used in *Panzer General*: soft, hard, air, and naval. In combat, units use their attack value that corresponds to the enemy unit's target type when firing at it (see Chapter 5).

Final Inspection

Now that you have the facts behind the figures, it is time to examine these values in the crucible of combat. Warfare is an art, but probability is a science. In the next chapter, we endeavor to blend these two elements in such a manner as to make you an unstoppable armored juggernaut.

5

Combat and Tactics

When Units Collide

"There is no substitute for Victory."
—General Douglas MacArthur

This chapter covers the combinations and formulas related to battles between individual units. These combinations and formulas are known as tactics. Tactics and strategy are two separate issues, but each has its place in every battle. Strategic considerations were introduced in Chapter 2, "The Philosophy of Command." In this chapter, you apply that knowledge in a tactical context.

Whereas strategic principles of warfare are regarded almost as a science, their tactical application is more of an art form. Although there are sound tactical guidelines you should follow, every Panzer General incorporates elements of his own style. (To provide you with the broadest possible exposure to playing styles, we asked the people at SSI for permission to incorporate some of their play-tester notes into this work. They graciously allowed us to do so, and we recognize the efforts of Michael Kroon in compiling these passages.

As you encounter these varied approaches to specific tactical problems, file them away in your bag of tricks. There is rarely only one way to solve a problem, and the greater the number of potential solutions you are aware of,

Soldiers of the 55th Armored Infantry Battalion and tank of the 22nd Tank Battalion move through smoke-filled street. Wernberg, Germany. Pvt. Joseph Scrippens, April 22, 1945 *(courtesy of the National Archives and Records Administration).*

the more effective a commander you become. Experiment with your alternatives. Find the ones that best suit your style, but, when you're playing against other humans (see Chapter 8, "Matching Wits with Other Panzer Generals"), never use anything so routinely that it becomes predictable.

Before delving into the particulars of the combat equations, let's establish some additional tactical background that will help focus subsequent discussion. Some of the concepts discussed here should already be familiar to you, and they appear in this chapter to reiterate and reinforce concepts that are germane to the focus of this chapter: defeating the enemy!

Tactical Background

World War II saw the rapid evolution of military technology, and this technology was an important reality to model in the game. Hundreds of different types of equipment are represented, and you can replace unit equipment with (presumably more advanced) alternative equipment. Upgrading unit equipment is an important part of the campaign game.

Different types of units and equipment have different tactical roles. These differences are represented by using a common system of unit values and then dividing units into various types with different capabilities according to their historical use and effectiveness. For example, anti-tank guns look very much like tanks with a lower ground defense value. The rule that tanks almost always get to shoot first if an anti-tank gun attacks them helps encourage (but does not require) their use defensively, as was the case historically. Because of this limitation, anti-tank guns cost much less than tanks for an equivalent main gun caliber.

Chapter 3, "Operational Analysis," explained replacements for existing units. Chapter 4, "Pondering the Pieces," introduced the various unit types and their normal applications. In this section, we give you some examples of how play-testers used this knowledge to manage their units and devise a tactical mix. This also sets the stage for additional discussion of prestige in Chapter 6, "Matters of Prestige."

Cost Versus Effectiveness

The prestige cost of units correlates only roughly with their effectiveness, so examine combat values closely before calling headquarters to send you new or replacement equipment.

Some of these values can easily be overlooked. Maximum fuel capacity and especially maximum ammo capacity must be carefully examined and are more of a constraint if the unit is advancing than if it's conducting a stationary defense. Remember that a unit can easily use up several rounds of ammo in a turn if it's repeatedly attacked (or providing defensive fire in support of adjacent units that are being attacked).

Close defense is another statistic you can regret overlooking if the unit runs into infantry in the woods and city hexes that are common on most battlefields, because you defend by using your close defense rather than ground defense value.

Also be sure to check the unit equipment tables to see what kind of enemy equipment you are likely to come up against. Begin by comparing your attack values and defense values to see who has more destructive potential in a fair fight. Then compare initiative values to see who's more likely to shoot first, bearing in mind that unit experience can count for as much as three initiative levels.

Experience tends to be very important in fighter combat, where initiative values don't differ much and where attack values are high relative to defense values. The better pilot often gets in a devastating first shot. It is less important in early-war tank warfare, where attack values tend to be relatively lower compared with defense values.

Auxiliaries Versus Core Units

A tension exists in the campaign game between getting experience for your units and letting the auxiliaries take the bulk of the punishment. Auxiliaries should be used for scouting in unexplored territory (because of the risk of ambush) and for those occasional sacrificial attacks that are necessary to soften up a tough enemy target. Topping them off with elite replacements is rarely worth it. Remember that HQ will provide you with elite replacements for your core units after the battle is over, so in the later stages it is a good idea to build full-strength units to over-strength while leaving crippled ones for HQ to top off.

You are not penalized for losing auxiliary units, although the enemy does gain prestige for killing them (see Chapter 6).

One implication of the enemy's capability to gain prestige from destroying your units is that it is better to disband a unit in a hopeless position than to leave it alive for the enemy to destroy for the prestige on their turn. Another

implication is that it is fine to use up as many auxiliary units as necessary to win your battles. Let your core units be "glory hounds," finishing off units already weakened by the auxiliaries and gaining the prestige. You need all the prestige and experience your units can gain for the long haul of a campaign game.

Upgrading and Elite Replacements

Players' styles differ significantly on when to spend prestige to upgrade a unit's equipment and when to give it elite rather than regular replacements. These decisions are important ones; there is a trade-off between the two and between these options and raising new units. The reason is simple: You rarely have enough prestige to do everything you want.

Upgrading Equipment

You can't afford to allow your technology to become obsolete, but you can't afford to upgrade every time new technology becomes available. Some units never upgrade. Pioniere and engineer units never get any better than their initial values. Infantry is typically upgraded in type once in 1943, although some players change the type of infantry as necessary or wait until Wehrmacht infantry gain experience before upgrading them to paratroops, pionieres, or engineers. Infantry, particularly the slower-moving heavy weapons, pioniere, and engineer units, should also be given half-tracks (or at least trucks) as soon as possible.

Aircraft are typically upgraded one to three times during the course of the war, sometimes more, while tanks can easily be upgraded three to five times. Many players will be surprised by how feeble the German tanks that won the early blitzkriegs really were. They won through superior skill and training, the same attributes you must rely on as a Panzer General.

TIP: The weaknesses of the early German tank designs become painfully apparent relatively early in the war. When you begin to notice allied armor (such as T-34s) that can stand toe-to-toe with your tanks and slug it out successfully, only one tactic counters these armored spearheads. Fall back, weaken the enemy columns with tactical air, and then counterattack until each formation is destroyed. If you allow weakened units to survive and reinforce, their extra experience can be devastating later in the battle.

Figure 5-1. British prisoners at Dunkerque, France, June 1940 *(courtesy of the National Archives and Records Administration).*

Naturally, experienced units should receive the best equipment. They can use it most effectively, and it increases their survivability. As you play, you will probably develop a preferred upgrade path that fits your force balance and tactics. Sometimes you have parallel upgrade paths: Before the development of the all-purpose Panther and Tiger, German tanks tended to fall into the anti-armor (Pz III) and anti-infantry (Pz IV) categories, each with a separate natural upgrade path. You may also want to experiment with different alternative approaches to force structure.

Elite Replacements

This is where player preferences seem to vary widely. One play-tester who emphasized armor and minimized air power won by largely ignoring attrition from enemy air power, but his units often had to fight at strengths of as little as 5. If you're harassed by constant air attack, building over-strength units is not worth the time. In contrast, most players felt strongly about the value of over-strength units and their capability to overwhelm their opponents in com-

bat or take heavy losses and remain effective. Units can be made over-strength only if they're highly experienced, so these players placed top priority on using prestige for elite replacements (sometimes even making selected auxiliary units over-strength).

These players differed, however, in their unit choices in this respect. Some players placed a high priority on enhancing their artillery because it can stay over-strength for a long time and preserve its destructiveness through the war. Others neglected their artillery, using its base firepower mainly to weaken entrenchment levels or shoot at vulnerable soft targets. Some cultivated their strategic bomber force, and others neglected it. Some used paratroops as expendable units, and others used veteran paratroops to secure objectives deep within enemy lines. Some put priority on enhancing front-line tank and fighter units, and others emphasized building up second-line units, which are inherently less able to gain experience through combat (artillery tend to be particularly slow to improve, for example).

WAR LESSON: Don't let your units fight until destroyed! If you can pull them out with even one strength point left, they can be rebuilt more cheaply per strength point than by buying a new unit (even if using elite replacements) and get to keep their experience as a bonus. This represents the importance of veteran cadres to the performance of new recruits. The importance of preserving units has many tactical implications. One is to ensure that units which risk heavy losses shoot before moving so that they can retreat to safety if grievously weakened. The corollary of this principle is, of course, to mercilessly wipe out crippled enemy units to keep the enemy from rebuilding them.

Combined Arms Tactics

There are many aspects to combined arms tactics, but this is the most important: Armor is the king of open ground, and infantry is the king of restricted terrain. If you consistently violate this rule, you'll be lucky to end the war as a Panzer Private.

As in the childhood game of scissors-paper-rock, every World War II troop type had a relative advantage over some other types and a relative disadvantage compared with others. Tanks can roll over infantry in the open but can be stopped dead by them in bad terrain or entrenchments. Artillery can

slaughter infantry but be slaughtered by tanks. Anti-tank guns can defend well against attacking armor but fare poorly against infantry. Air defense and anti-air units are poor against ground units, but are a major threat to aircraft.

Combined arms tactics involve using a variety of unit types in close cooperation, each attacking the enemy where it has an advantage and being screened by the other arms where it has a disadvantage. On the advance in open ground, for example, tanks and tank destroyers would lead, with self-propelled artillery, air defense units, and infantry mounted in half-tracks or trucks "tucked in" behind them (where the enemy cannot attack them without first forcing the armor out of the way). Recon units might also be on or immediately behind the front line to use their superior spotting range to scout ahead.

Although an army consisting solely of tanks might be able to win a battle (at least, a defensive battle), it is likely to lose badly to a balanced force of equal size. Both in the overall army and in the battle groups assigned to spearhead particular attacks or defend particular sectors, the subtle skill of using combined arms is one of the most important talents of the Panzer General. There are many aspects to combined arms, as you will learn the more you play.

Combined arms coordination was central to World War II tactics and are represented by giving each unit a turn to move and shoot. Tactical subtlety is achieved by way of the sequence of movement and combat involved in a particular local engagement.

Remember that thought because we will revisit it again. Now, however, it is almost time to get into the "meat and potatoes" of the combat equations. One final topic must be covered before we do so: the special tactical doctrine known as blitzkrieg!

Blitzkrieg

"The tank had been invented in order to break the deadlock of trench warfare [during World War I]. Used as a mobile armored pillbox, it could advance in the face of machine gun fire and crush the vast fields of barbed wire that filled no man's land. Ability to cross trenches was considered far more important than firepower, and protection more important than speed. The war ended with very long, very heavy tanks, which were so slow that they became vulnerable to artillery fire. No matter how much the theorists insisted that a really fast tank (in the 20 to 30 mph category) would transform the very nature of war, the fact was that the war had

ended with the tank no more than a rather ineffectual infantry support weapon. For the staffs of most armies, it remained so until the next war began."

Len Deighton, from *Blitzkrieg*

Though there were others, the major exception to this observation was Hans Guederian, the German general to whom this work is dedicated. Guederian's concept of *blitzkrieg*, or lightning warfare, was a natural extension of earlier Prussian military thought. The teachings of von Moltke (shock troops), von Seeckt (mobility), and Schleffin (encirclement) are core precepts in the blitzkrieg tactical doctrine.

Guederian's influence in the eventual success of the blitzkrieg, however, extends beyond the refinement of tactical thought. He also prioritized Germany's prewar production efforts with exactly the type of tank designs he needed to implement the tactic; emphasizing mobility, firepower, armor protection, and communication, in that order. Thus, he not only envisioned a plan for victory, he also developed the tools necessary to accomplish that plan.

The essence of blitzkrieg is as follows: Several armored columns race through enemy territory, capturing as much ground as possible in a short period of time. Their advance is supported by judicious use of tactical air power (serving as highly mobile artillery, if you will) against enemy units in position to stall the advance. All obstacles that cannot immediately be neutralized are bypassed. Motorized infantry units follow in the wake of the armored columns, defeating organized resistance in detail and mopping up disorganized enemy formations at will.

The commander of the blitzkrieg must determine the time at which the overall advance should stop and the territory gained consolidated. If one is foolish enough to outrun the infantry's capability to secure the rear area, there is a definite danger of the forward armored columns being cut off and destroyed.

The blitzkrieg is therefore not an infallible tactic. It requires a competent Panzer General to monitor the level of resistance and correctly ascertain the instant when the tactic becomes ineffective. At that point, the proper course of action is to halt the advance, resupply units, solidify the front line at its new position, and begin preparations for another assault.

How Combat Works

Combat resolution in Panzer General involves the interaction of several independent values and variables. What follows is an examination of each of these factors and their place in the combat formula. The discussion culminates with several examples that illustrate the process. You must understand one thing from the outset, however: Despite the fact that mathematical formulas are used to resolve unit engagements, *there are no absolutes in combat!*

Figure 5-2. General Dwight D. Eisenhower gives the order of the Day, "Full victory—nothing else," to paratroopers in England, just before they board their airplanes to participate in the first assault in the invasion of the continent of Europe. Moore, June 6, 1944 *(courtesy of the National Archives and Records Administration).*

As in the real world, SSI has introduced an element of chance into combat. Think of it as Murphy's Law or, if you are more comfortable with a football analogy, the old proverb that any given team can win on any given day. You will cheer when one of your units that by all rights should be overrun in the current attack mounts a rugged defense and somehow survives. Likewise, it is painful when the enemy returns that favor in the face of overwhelming odds and breaks up an attack you carefully planned. As the French would say, "*C'est la vie, c'est la guerre!*" ("Such is life, such is war!).

Initiative

The first step in any non-ranged combat process is to determine who gets to shoot first. This subject was first broached in Chapter 4, "Pondering the Pieces," and is reinforced here as the first critical step in the combat-resolution process. The final initiate values are a factor of the base initiative rating of each combatant (as listed in Appendix B or on the Unit Information screen), the experience levels of the two combatants, and the initiative limits of the terrain being contested (the hex the defending unit is on). We deal with the latter issue first.

Initiative limits for terrain are as follows:

Clear, Airport, Desert, Ocean, River, Escarpment, Deep Desert: 99
Mountains: 8
Ports, Rough: 5
Swamp: 4
Forest, Bocage, Fortification: 3
City: 1

After you know the initiative limit (or cap) of the defending terrain, compare *both* the defending and attacking units' listed initiative rating to this value. If the rating is below the terrain initiative cap, it remains the same. If it is higher than the initiative cap, it is reduced to that cap value.

When these values are determined for both units, each can directly add its experience level (as denoted by completely filled stars) to complete the next step in determining the final initiative comparison.

The final step in the process is for each side to roll a three-sided die and add the result to the numbers just calculated. The unit with the highest initiative shoots first. If the final values are identical, both units shoot simultaneously.

NOTE: The projected losses shown at the bottom of the screen when you move the targeting cursor over an enemy unit are for simultaneous combat. As such, they can change considerably depending on who is eventually determined to have the initiative in that round of combat.

Consider the following example, which illustrates the process. An initiative 6, level 1 tank attacks an initiative 0, level 3 infantry unit defending a town. The initiative cap for the town is 1; the tank's initiative, therefore, is

reduced to 1. Because the infantry unit's initiative is already 0, it remains the same. Next, the experience levels are added, resulting in an initiative of 2 for the tank and 3 for the infantry. On a d3, the tank rolls a 3, and the infantry unit rolls a 1. The final numbers are an initiative of 5 for the tank and 4 for the infantry. The tank gets to shoot first.

WAR LESSON: In addition to getting a chance to shoot first, experienced units lose fewer casualties and inflict more casualties than would otherwise be the case. Units gain experience by fighting and gain the most by destroying enemies, or at least forcing them to retreat, with better experience or equipment. Building up units to over-strength status is popular with some play-testers because their combination of numbers and quality can smash some enemy units with a single attack. Building up to over-strength takes time, however, and artillery and air bombardment have the annoying effect of cutting these units back down to size.

Special Cases for Initiative

Chapter 4, "Pondering the Pieces," lists all the possible exceptions to the aforementioned initiative rules. If you do not remember them, refer to that section now. You must internalize these exceptions so that you do not commit a grievous tactical blunder at an inopportune time.

Combat Grades

Many calculations and variables are used to determine the chance of scoring hits on an enemy. Almost all these calculations take the form of adjustments to the combat grades of a unit. The calculations take into account two grades for each unit: the attack grade and the defense grade.

The Attack Grade

The attack grade begins as the listed attack value (from Appendix A or the Unit Information screen) versus the type of equipment the enemy unit is using. See the TT column (target type) listed in Appendix A. If a tank is shooting at an infantry unit, for example, the tank uses its soft attack value.

This initial value (except when it is zero) is then modified by +1 for every level of experience the attacking unit enjoys. If the targeted unit is on a river

hex, add an additional four points. A value of +4 is also added to the attack grade of units that successfully mount a stiff defense (see the "Stiff Defense" section, later in the chapter).

Attack Grade Exceptions

The following conditions automatically set the attack grade of a unit to zero:

Any unit other than a tactical bomber or destroyer attempts to attack a submarine.

Any unit other than an air defense, anti-aircraft, fighter, or fighter-bomber attacks any type of plane.

Either unit is a plane and it is raining or snowing.

A unit is out of ammunition and attempting to attack.

An air-defense unit initiates an attack on any non-plane unit type.

You are the target of a ranged attack, unless it is a battleship-versus-battleship engagement.

The Defense Grade

Likewise, the defense grade is the target's defense versus the kind of unit that is attacking it. An infantry unit that is being attacked by a tactical bomber, for

Figure 5-3. Landing on the coast of France under heavy Nazi machine-gun fire are these American soldiers, shown just as they left the ramp of a Coast Guard landing boat. C Pho M. Robert F. Sargent, June 6, 1944 *(courtesy of the National Archives and Records Administration).*

instance, uses its air defense value as the baseline defense grade. There are three types of defenses: ground, air, and close (or ASW). A unit attacked by a ground unit uses its ground defense (including non-ranged shipboard gunnery engagements) and its air defense rating when attacked by an air unit. ASW defense values are used when a ship is attacked by a submarine.

Close Defense is typically a small value and is used against the defender when infantry units attack into a city, wooded, or fort hex and the attacking unit was not ambushed. Defending units get to use the close defense value against the attacker when they are defending from a city or wooded hex and also whenever they make their stiff defense die roll.

Defensive Grade Modifiers

The following additional bonuses are added to the calculated defense grade of the unit for the situations noted. Where multiple bonuses are applicable, their effect is cumulative:

+8 for all ground units versus naval units

+3 versus ranged attacks when it's raining or snowing

+1 for each level of experience the unit enjoys

+4 if the opponent is not an airplane and is on a river hex

+3 if the unit is initiating an attack on artillery

+4 if the unit is defending in stiff defense

+ the current entrenchment level if the attacker is non-infantry

+ one-half the current entrenchment level if the attacker is non-engineer, non-pionere infantry

+2 for infantry versus anti-tank guns

Entrenchment level is a key consideration in every battle. Chapter 4 addressed the mechanics of entrenchment in great detail. If you are still uncomfortable with that process, please review that section again now, before continuing with the remainder of the combat explanation.

Stiff Defense

Stiff defense, also known as out of the sun and surprise contact, can occur in two ways. As discussed in Chapter 3, if a unit's movement path would take it

into the hex of a previously unlocated enemy unit, a stiff defense occurs automatically. If it does not occur this way, then whenever an entrenched unit is subject to a non-ranged attack by a non-pionere, non-engineer ground unit, there is a chance of stiff defense as follows:

First, the program calculates these two ratios:

Experience ratio = (def exp level + 2)/(att exp level + 2)

Entrenchment ratio = (def entr rate + 1)/(att entr rate +1)

Then these values are entered into the following formula to determine the percentage chance of a stiff defense:

Entrenchment level x exp ratio x entr ratio x 5% = Ambush chance

The program then rolls a d100 to see whether that result is obtained.

This example illustrates the equation: A level 1 infantry is attacking a level 2 tank that is at an entrenchment level of 3. The experience ratio is 4/3. The entrenchment ratio is 2/4.

3 x 4/3 x 2/4 x 5% = 10%

In this instance, the computer must roll a 90 or higher on a d100 to achieve a stiff defense result.

Defensive Fire

Normally, when an attack occurs, defensive fire is the first thing that is resolved. If a direct fire attack is being made by a ground unit, any artillery pieces adjacent to the defender conduct a preemptive bombardment of the attacking unit, the results of which are applied immediately. Likewise, if a unit is under attack by an air unit, adjacent defensive fighters can conduct one round of cap support *for the entire turn*. Adjacent air defense units can also conduct defensive fire, but they are not limited to one engagement per turn. In all these instances, the unit initiating the attack cannot return fire, so the suppression and casualties they receive take effect *before* the ensuing engagement between the original two combatants.

Normally all of a unit's strength points may shoot. When defensive fire is performed, however, the original attacker may have many of these points either destroyed or suppressed *before actually entering the combat resolution phase*. In other words, after any defensive fire, the current number of strength points

remaining on-line and their initiative are determined. Only then are casualties determined. We apologize if this is belaboring the point, but it is a very important point to understand! If shooting is not simultaneous and the unit about to attack has no strength points on-line, then the unit may not shoot!

Other Modifiers to On-line Strength

There are several other situations in which units enter the combat formula at reduced strength. If they have been the target of level bombing, the suppression results they receive from that attack last throughout *the entire turn*, not just during the current round of combat. If the unit is out of fuel and they normally consume fuel (including infantry units with organic transports), combat strength is halved. All ground units that attack during turns in which the ground is muddy have their combat strength halved. All air-to-ground and ground-to-air combat strengths are halved during overcast weather.

Determining Casualties

After all the above have been resolved, it is time to compute the casualties as a result of direct fire combat. Whenever a unit shoots at another (whether it's attacking or defending), the first step is to calculate the difference between the shooter's attack grade and the target's defense grade. Up to 4, this difference is added to the roll of a d20 unmodified. Above 4, the actual difference figure the program eventually uses is 4 + 2/5 x (difference - 4), rounded down.

> **Example**: Attack grade = 18, defense grade = 10. The unmodified difference equals 8. The actual final difference is 4 + 2/5 x (8 - 4) which equals 5.

In this example, the unit conducting the attack would roll a *separate d20 for each strength point*, add 5 to each roll, and compare the results to one of the following examples. Use the first example when figuring combat rolls for artillery, level bombers, forts, destroyers, and battleship units. Use the second example for all other units.

Hit: 19+	Suppress: 11 through 18	Miss: 1 through 10
Hit: 13+	Suppress: 11 through 12	Miss: 1 through 10

Hits reduce the strength of the target. Suppression (except for that inflicted by level bombers) reduces the number of enemy strength points on-line for this round of combat. Attackers who have not fired and who have no

units remaining on-line have their attack broken up!

Defenders who are being attacked on the ground by non-ranged units and have no units remaining on-line retreat. They retreat one hex into a legal hex that is as far away from the attacker as possible. If there is no such hex, because the unit is blocked by other units (either friendly or enemy) or geographic restrictions, the unit surrenders. Normally, only ground units retreat, but naval units also do so if they are in a port hex and an enemy ground unit enters that hex. If they cannot retreat, they are scuttled.

TIP: *Panzer General* contains an undocumented glitch that escaped the final code checks. In the current version, submarines do not retreat from a port hex in the face of enemy infantry. Because infantry also cannot attack subs, these units can hold a victory hex port unfairly, and you must root them out with either destroyers or tactical bombers.

Offensive Considerations

To win a major victory, you must not only win, you must also win early. In the campaign game, the difference between a major and minor victory is important to your future. Usually, a major victory is won by taking your objectives especially early. If you take them too late, usually about two-thirds of the way through offensive battles, the best you can achieve is a marginal victory. On defense, the number of objectives you hold at the end of the battle is the key. Tenacity and endurance count. Avoiding friendly losses and inflicting losses on the enemy don't count for determining victory and defeat, although, particularly in the campaign game, both these goals help you improve your core army and thereby help in future battles. Because only victory objectives count, you must avoid being led astray by diversions.

Part of staying focused on objectives is making and implementing a plan and keeping your forces organized accordingly. Check the strategic map to see where victory objectives are and the best routes to them, preferably routes that pass by a number of them. Paths that threaten multiple objectives are preferable because the enemy must build and deploy units to defend them all, thus leaving the target you want to strike weaker before your blow.

The tutorial speaks in terms of battle groups because thinking in those terms, each given the task of driving to specific objectives, is the best way of

keeping on track and avoiding time-wasting distractions. To win in *Panzer General*, time is the one thing you cannot afford to waste. Poorly coordinated offensives tend to become dissipated and diffuse over the entire enemy front. Avoid the temptation to send your units wandering across the battlefield in pursuit of temporary and often irrelevant tactical advantages, such as picking off weakened units. The result of this type of lack of focus is that a decisive victory can become a minor victory or a loss.

Attacking on a broad front is an unwise dissipation of strength except in fluid "pursuit" battles, such as Kharkov, where you are chasing or racing past the enemy to your objectives. Single, narrow spearheads are too limiting, but a single, broad spearhead is an effective way to punch through strong defense lines into more favorable ground beyond. Multiple spearheads work well in intermediate situations with widely spread objectives. This is because your multiple lines of advance threaten many objectives simultaneously. This forces the enemy to disperse his units to protect them all, weakening him everywhere. Also, you can use these attacking columns to converge on a particularly difficult objective city from several directions, thereby massing the bulk of your combat strength against it.

Dividing Your Forces into Combat Groups

Forces tend to be grouped by speed. Keep combined arms groups together. Have a specific mission in mind for that group (mobile attack, static defense, fire brigade, mobile defense, prepared assault, etc.). The most successful battle groups are those that are well-equipped to deal with multiple threat types. This implies a capability to conduct effective attacks against all the possible target types except naval (soft, hard, and air). Many successful combinations of units can achieve the proper force mix; the specific choices are completely up to you. To see how some other players have addressed this issue, read on.

Offensive Force Balance

Force balance is essential on the offensive because of the varied nature of the terrain and enemy forces. Play-testers have found that a range of approaches work, but there are a number of consistent factors. The largest parts of core groups tend to be tanks, infantry, and aircraft. Tank strength is typically from 25 to 50 percent of the core group, generally increasing over the war. Infantry strength is typically from 20 to 30 percent and slowly declining on a battlefield

where only veteran infantry can effectively defend themselves. Some players use paratroops; others don't. The proportion of engineers and pionieres (who are very costly in terms of prestige) to other infantry also varies widely.

Air strength varies the most of the "big three" types of forces, from a couple of fighters to more than 30 percent, with the "big wing" proponents using one or two level bombers and the rest split in varying proportions between fighters and tactical bombers. Some players prefer the greater ground attack capability of dedicated tactical bombers, and others prefer the added anti-air capabilities of fighter bombers, particularly when facing strong enemy air opposition. Aircraft first became available in Warsaw (although the first fighter-bomber is not available until Norway).

Figure 5-4. Crossed rifles in the sand are a comrade's tribute to this American soldier who sprang ashore from a landing barge and died at the barricades of Western Europe. 1944 *(courtesy of the National Archives and Records Administration).*

Some players' core groups include as much as 10 percent apiece of artillery and anti-tank units, and others use none or rely on auxiliary forces. Self-propelled artillery is more useful on the advance, but towed artillery, if entrenched and protected against air and ground attack, suffices on the defense or for slow-moving attacks, such as those through mountainous or other unfavorable terrain.

Artillery, like pionieres and engineers, are magnets for enemy air attacks, so use of these troop types necessitates a strong air force or air defense. Few

play-testers used more than a single anti-aircraft unit or more than a few air-defense units in their core groups for the 1939 campaign, largely because they are not necessary if you control the air, as the Axis tends to do in the early war.

Air defense units are also often available as auxiliaries. Even players de-emphasizing air power found a small fighter force useful for picking off isolated enemy bombers, forcing the enemy to escort his bombers, and for reconnaissance. The main alternative to air reconnaissance (other than turning "hidden units" off) is recon units. Players who use them usually use no more than one per spearhead for scouting purposes. Late in the war, they have to be used more carefully in the face of increasingly powerful enemy units.

Though the force percentages can vary significantly, each approach strikes a particular combined arms balance between the types of units the player uses together to achieve victory on the battlefield. Some choices limit others, however. An army with a powerful air force, for example, has little need for air defense and can afford to deploy many expensive artillery and engineers, which are no more than vulnerable targets, however, if the enemy rules the skies. Auxiliary units that are available often help deal with key gaps in your force mix for particular scenarios: for example, air defense in the Low Countries; naval, air, and paratroop units in Norway and Crete; and pillboxes for D-Day (hope your career takes a more successful track!).

How To Conduct a Prepared Assault

The first step in a prepared assault is to conduct proper recognizance, or scouting. You cannot be "prepared" if you don't know what you are getting into. This process can involve sending aircraft along a path crossing over the terrain you are interested in or pushing a recon unit to the limit of what is currently visible (see Chapter 3 for an explanation of spotting rules) or one hex short of that, if you want to be careful. In the absence of both of these unit types, you can use a unit somewhat to the rear of your front line whose full move would take it ahead of your line but to a hex that is visible. When it arrives there, it spots additional hexes and other units from the rear can leapfrog forward, increasing the spotted area. The leapfrog method severely slows down your advance, but it also eliminates the possibility of being ambushed.

Suppose that the enemy is spotted, heavily entrenched in a victory objective city directly ahead of you, with artillery positioned behind the city and infantry or armor to either side. You decide that you can't successfully bypass

the objective and turn back to take it later. Your priorities are to eliminate the supporting artillery, clear away the nearby enemy units, and weaken the unit defending the city. The following steps constitute a specific tactical approach to the priorities you have determined:

1. Move a fighter over the city to strafe the enemy. This step rarely inflicts any casualties, but your attack does reduce the enemy's entrenchment level by one.

2. Move a tactical bomber over the enemy artillery and attack. Generally, a Stuka can completely eliminate a full-strength artillery unit (unless the enemy reinforces it) in two to four turns, depending on the experience level of the Stuka. Getting rid of the enemy artillery is the key to preventing heavy losses when your infantry approaches the city.

3. Engage the enemy units flanking the city with armor. If those units are also armor, make sure that you are using tanks with high hard attack factors (such as PZIIIJs). If the enemy units are AT guns or infantry, use tanks with a high soft attack factor (such as PZIVDs). If the enemy has left a gap that allows you to move next to his artillery battery, attack and eliminate it first before focusing on the other units.

4. Move one or more artillery units of your own within range of the city. "The more, the merrier" because each barrage they conduct reduces the entrenchment of the city's garrison unit by one and may inflict casualties as well.

5. Move two infantry units in front of your artillery and adjacent to the enemy city. Preferably, at least one of these units should be a pionere or engineer because neither of these types can encounter a rugged defense. If the enemy's entrenchment level at this point is less than 4 and his supporting artillery has been destroyed, go ahead and attack him with the pionere or engineer leading the charge. Usually, however, you sustain fewer casualties if you wait until the next turn.

The steps you have performed have already diminished the enemy's capability to resist your upcoming attack in numerous ways. He can't resupply at normal levels, build new units adjacent to the city, or successfully attack your infantry because of your artillery support. Also, he can't attack your infantry

with air power because your fighter will intercept; his artillery will try to harass you, though. On the ensuing turn, use the following approach:

1. Attack the city with your fighter, and then move it to an adjacent hex.

2. If the enemy units flanking the city are gone, an armor or tank destroyer passes forward to attack enemy artillery while a tactical bomber moves over the city to attack it.

3. Friendly artillery bombards the city.

4. First assault wave attacks city and then retires away if the enemy survives (pionieres and engineers are more likely to win immediately).

5. Second-wave infantry moves adjacent to the city (if it's not there already), attacks, and probably wins. If he begins next to the city, he can then move in and occupy it. If not, move fresh troops up from the rear to occupy the city.

WAR LESSON: Make sure that you pay attention to the estimated combat results displayed for you by your staff on the bottom of your screen as you plot your attacks, although actual combat results vary. The only important variable the estimate leaves out is the risk of facing a rugged defense.

Defensive Considerations

When you're defending, build multiple lines of defense, also known as "defense in depth." Use ATGs and infantry, which entrench more to defend river crossings and other natural avenues of approach. Use infantry in cities, mountains, and forests. Artillery sighted behind towns to provide defensive support is especially useful.

Active defense is the strongest form of defense. During World War II, it was an effective practice to launch immediate local counterattacks to neutralize enemy penetrations and disrupt their formations before they could settle into a captured position.

Combined arms on the defensive is the converse of combined arms on the offensive. An ideal defensive position consists of infantry in bad terrain immediately supported to the rear by artillery and air defense units, with armored

and infantry reserves to counterattack breakthroughs in open and close terrain, respectively.

In a perfect world, it is also nice to have fighters to shoot down enemy tactical bombers, and tactical bombers to weaken enemy artillery and the attacking units they support. If you can keep the fighters in the air over your lines, they can intercept attacks on adjacent ground or bomber units (unless they're attacked first by the enemy). You usually have air inferiority, at least initially, when you're on defense. Sometimes your skill can turn the tables, but more often you are swamped by enemy air power and must rely on ground-based air defense units to ward off this threat.

WAR LESSON: When you're defending, pay close attention to the status of your front-line units and that of the enemy units which oppose them. If a unit is particularly likely to be beaten in a coming engagement, try to leave room for it to fall back. Failure to do so may result in that unit surrendering when it's attacked instead of retreating in the face of overwhelming odds. Remember that it's better to trade ground for time when you're defending. The disadvantage of this technique, of course, is that it makes it harder to put artillery and air defense units in direct support of your front-line units.

Figure 5-5. Field Marshall Wilhelm Keitel, signing the ratified surrender terms for the German Army at Russian Headquarters in Berlin. Lt. Moore, Germany, May 7, 1945 (courtesy of the National Archives and Records Administration).

Terrain

When you're defending, paying careful attention to terrain is well worth the effort. Rivers are probably the most significant obstacle and make excellent positions to defend behind. Bridging units are helpful in terrain with many rivers but few roads or bridges, for both offensive and defensive players. Remember that you can mount a successful counterattack while the offensive player's attentions are elsewhere.

Cities, in addition to being victory objectives and prestigious to capture and hold, are the next most significant obstacle because of the strength they offer the defense. When you defend in cities, swamps, and mountains, the opposing equipment's initiative difference is minimized (because of the close-range combat involved). As such, entrenchment and experience levels become the key variables in resolving the combat equation. Cities, woods, and mountains also allow defending and attacking infantry to shoot against the close defense number of the opposing unit. **Exception:** When defending infantry succeed in putting up a rugged defense, the attackers must shoot at the defender's ground defense value, vice close defense value.

Entrenchment

Entrenchment levels are a key concept in the game: Units able to dig into a prepared position are tougher to root out. Entrenchment levels are a feature of units, not terrain, but they affect combat much as terrain does, and they make a devastating rugged defense more likely. Entrenchment levels can be reduced by attacking or bombarding a ground unit.

The concept of "rugged defense" represents ambush or the ability to open fire with surprise at close range. Conditions that favor the defender can devastate an attacker. Rugged defense really helps infantry, particularly well-entrenched infantry.

Repeated attacks on such a unit, however, disrupt an entrenched unit, force it out of good tactical positions, and give the attacker intelligence that is useful for additional attacks. In the game, expect both computer and human opponents to attack a strongly entrenched unit with a combination of aerial and artillery preparatory bombardment, followed by ground attacks by one or more units. (This advice should sound familiar because it is exactly the approach you were just instructed to adopt when you're on the offensive.)

Entrenching is critical in defending, but it also takes time unless a unit begins a scenario entrenched. Some units can take better advantage of the ground and therefore entrench more quickly than others do. Moving units have a 0 entrenchment level, but they gain the base entrenchment level of the particular terrain they end in when they stop.

Weather

Bad weather generally helps the defender and helps the side with air inferiority because of the inability of air units to attack and because of their reduced scouting ability during bad weather. Interludes of bad weather are good times to resupply and rebuild units or make them over-strength while waiting for the weather to clear.

Winning the Air War

The air war is a subsidiary but critical part of the war. Air units cannot take or hold terrain (only land units can do that), but they can prove to be a major help or hindrance depending on whose units are flying overhead. The ideal is air supremacy (such as the Allies enjoyed in the Gulf War in 1990), which means unopposed control of the air. Your minimum goal, however (unless you're seriously inferior in the air), is air superiority, which means that you generally have the advantage in the air and can range freely over enemy lines to launch ground attacks. If you achieve air supremacy, keep your air units constantly busy launching attacks on ground units to increase their experience levels. With air supremacy, your soft targets are also safe from air attack, and your air force can provide valuable reconnaissance of the enemy's dispositions although he cannot see yours.

With air inferiority, your soft targets, especially trucks, artillery, and pioniere or engineer units, get hammered. Your fighter and anti-air units should concentrate on enemy bombers because the fighters can do only minimal damage to your ground units. Your air defenses can provide some shelter from enemy attack for your air units.

Fighter-bomber coordination was a major doctrinal issue on both sides during the war in Europe, most notably in the aerial Battle of Britain in 1940 and the air war against Germany from 1943 on. Should the fighters be tied to close escort of the bombers or range free to hunt down enemy fighters before

they can approach? From the aerial defender's point of view, should his interceptors target the attacking bombers or the escorting fighters?

In *Panzer General*, the optimum approach is usually to attack escorted bombers and first attack the fighters to weaken or destroy them. If this strategy is successful, it reduces the effect of, or prevents, intercepting attacks on the bombers. Air defense units work in the same way, although they are best attacked by ground units. Good tactical bombers and pilots can take them out or severely weaken them from the air. Sometimes the attacker escapes without loss by shooting first to devastating effect, but considerable losses to the attacker are more typical.

When you're coordinating air units, remember that different aircraft move at different speeds. Don't leave your bombers accidentally unescorted because the fighters have moved too far. It's usually helpful to move the slowest units first, if they can safely do so.

Strategic bombers can inflict prestige losses on the enemy by bombing victory objectives, destroying airfields, and bombing other enemy-held cities into neutral status. When you neutralize a city the enemy can no longer build there or gain prestige from holding it. This is like wrecking it. Bombers can also bomb units, destroying strength, ammo, and fuel and suppressing them for the entire turn. Veteran and crack strategic bomber crews are very effective. Note that "heavy"- and "medium"-level bombers are inherently more effective than "light"-level bombers are, but that the relative difference narrows considerably with experience. Level bombers all have the same hard and soft attack values, so the real combat difference is revealed by other values, including their air attack and air defense values. Bombers with high naval attack values can also be extremely useful against ships.

Winning the Naval War

Most scenarios don't include naval warfare, but naval units play an important role in almost all the scenarios in which they appear. They are expendable and should be used to defeat the enemy navy and then support the ground forces with bombardment, or at least prevent the enemy fleet from bombarding your forces. Note that bombardment is much more effective against soft targets than against hard targets.

In naval battles, keep the scissors-paper-rock interaction of destroyers,

subs, and capital ships in mind. Because capital ships can't fight back against subs, an escort screen is essential against this threat. When you're playing against the Germans, the only consistent method of gaining naval supremacy is to concentrate your bombing efforts on the Allied fleet first, before moving on to support the ground offensive.

Post Combat Debriefing

So now you know how to fight, *Panzer General*. Doubtless you are already pondering the spoils that supposedly await the victor. In this game, those spoils take the form of prestige. To learn how to court this evasive bridesmaid, turn the page.

6

Matters of Prestige

"There is only one decisive victory: the last. All that precede it, however great they may be, amount to nothing but an expenditure of energy which imperils the chances of winning the final decisive battle."

—Karl von Clausewitz

To reach the final battle to which Mr. Clausewitz refers, you must learn how to manage prestige. Prestige plays a part in every scenario but a much larger role in the campaign game. If your goal is to alter history, you must make the most of the prestige you gain, by upgrading the equipment of battle-hardened units and expanding the core of your army as new units become available.

Prestige is also the central element of play balance when you're operating against the AI opponent. You cannot anticipate his reinforcement schedule or potential to mount a counterattack without the undocumented knowledge you can find only in this chapter. Guard these secrets well, for when they are combined with the other techniques you have been taught, the road to victory has been paved for you!

American troops in tank passing the Arc de Triomphe after the liberation of Paris, August 1944 *(courtesy of the National Archives and Records Administration).*

Prestige: The Big Picture

In its simplest form, prestige may be thought of as money. It is used to either reinforce or upgrade existing units as well as to purchase new units. On a more esoteric level, it is a reflection of your abilities as a Panzer General and the faith the German High Command places in you based on your success in the field. If you are capturing your objectives, you are rewarded with greater prestige. This prestige is then expended by you to keep your formations viable and strong, thereby increasing your chances of maintaining a string of successes.

Conversely, if you are not doing well in battle, you not only find yourself on the defensive but also are forced to mount these last-ditch efforts with fewer prestige points. The German High Command will lose faith in you over time, and your career prospects become bleaker all the time. One thing is constant in both the winning and losing paths: inertia.

If you come out aggressively at the beginning of a campaign, you develop a positive momentum that carries a degree of inherent inertia. The more rapid your success, the greater the positive inertia of your campaign. This inertia is sustained through the proper expenditure of prestige. Furthermore, to overcome your momentum, the only recourse open to the enemy is to destroy your increasingly strong formations in battle. The longer it takes him to do this, the more difficult it becomes because he is forced to deal with diminishing prestige over time in the face of your success. Naturally, if you develop a negative momentum through even as few as two failures in a row, you have to overcome the inertia of this trend to reverse it in the same manner.

We must conclude, therefore, that prestige is at the heart of the game. As such, considerations surrounding it should form the core of every battle plan. Now turn your attentions to the details of this game mechanic in such a way that you can make informed judgments at all stages of your planning.

How To Gain Prestige

Prestige accumulates in the same fashion whether you are playing single scenarios or a campaign game. What sets apart the latter is that accumulated prestige can carry over from one scenario to the next. It is easiest to think of prestige in two forms: preordained and situational. One of the preordained constants for both single-scenario and campaign play is that each scenario has a base

starting prestige value for both Axis and Allied sides. Table 6-1 lists all these values in addition to some additional values related to the AI model, which are explained shortly.

Table 6-1

Baseline Prestige and Incremental Dump Parameters

Scenario	Starting Value Axis	Starting Value Allied	AI Bucket Axis	AI Bucket Allied	AI Arrival Increments Axis	AI Arrival Increments Allied
Poland	228	200	200	200	2	4
Warsaw	600	200	2000	500	2	4
Norway	1014	1196	1500	1500	4	4
Low Countries	625	1054	1250	750	4	4
France	375	1504	1750	750	4	4
Sealion (40)	675	1152	1000	750	4	4
North Africa	1006	932	1000	1500	3	4
Middle East	500	750	1000	1000	4	3
El Alamein	558	1050	1500	1000	4	4
Caucasus	800	2322	2000	2000	4	4
Sealion (43)	1800	4112	2000	2000	4	4
Torch	835	1528	1000	1000	4	4
Husky	1390	533	1000	2000	4	4
Anzio	480	1064	1000	2000	4	4
D-Day	956	2042	1000	2000	4	4
Anvil	964	2014	1000	2000	3	4
Ardennes	1106	1138	1000	200	4	8
Cobra	720	1314	1000	2000	4	4
Market-Garden	1890	564	1500	1000	4	4
Berlin (west)	942	1020	1000	2000	2	2
Balkans	755	500	750	500	3	4
Crete	524	968	600	600	4	4
Barbarossa	777	788	1200	600	4	3
Kiev	1035	1242	1500	1000	4	4

Moscow (41)	524	974	1500	2000	4	4
Sevastopol	1232	1365	750	300	2	2
Moscow (42)	620	919	1500	1500	4	4
Stalingrad	606	2260	1500	1500	4	4
Kharkov	500	500	750	750	4	4
Kursk	558	942	500	600	6	4
Moscow (43)	520	1248	1500	1000	4	4
Byelorussia	758	1521	1500	1800	4	4
Budapest	500	717	1500	1500	4	4
Berlin (east)	380	1133	1000	3000	2	2
Berlin	736	1118	1000	3000	2	2
Washington	1277	2698	3000	2000	2	4
Early Moscow	614	500	1000	1500	4	4
Sealion Plus	545	684	1000	500	4	4

The starting prestige values for each side remain constant regardless of whether that side is being controlled by the computer or by a human player. Again, if you are playing the German side in a campaign, you may find that your numbers are slightly higher at the beginning of a new scenario. The reason is that you receive, in addition to the base value, any unspent prestige that remained at the end of the previous scenario. This fact brings to light an important tactical tip that is applicable only to the campaign game.

TIP: When you play a campaign of Panzer General, you find yourself in the same situation at the end of each scenario. You have only one victory objective hex left to capture. After you do so, even if you have other units that can move and fight, the scenario ends. If you do this, you have wasted an opportunity. Instead, save the capture of the victory hex until the end of your move. Use all the units not directly involved in that effort to destroy as many other enemy units as possible without allowing any single friendly unit to be completely destroyed (remember that understrength units that survive are automatically returned to full strength at the beginning of the next scenario with *elite* replacements). In this manner, you maximize both the experience and prestige your forces can gain for the current scenario, all of which carries over to the next one!

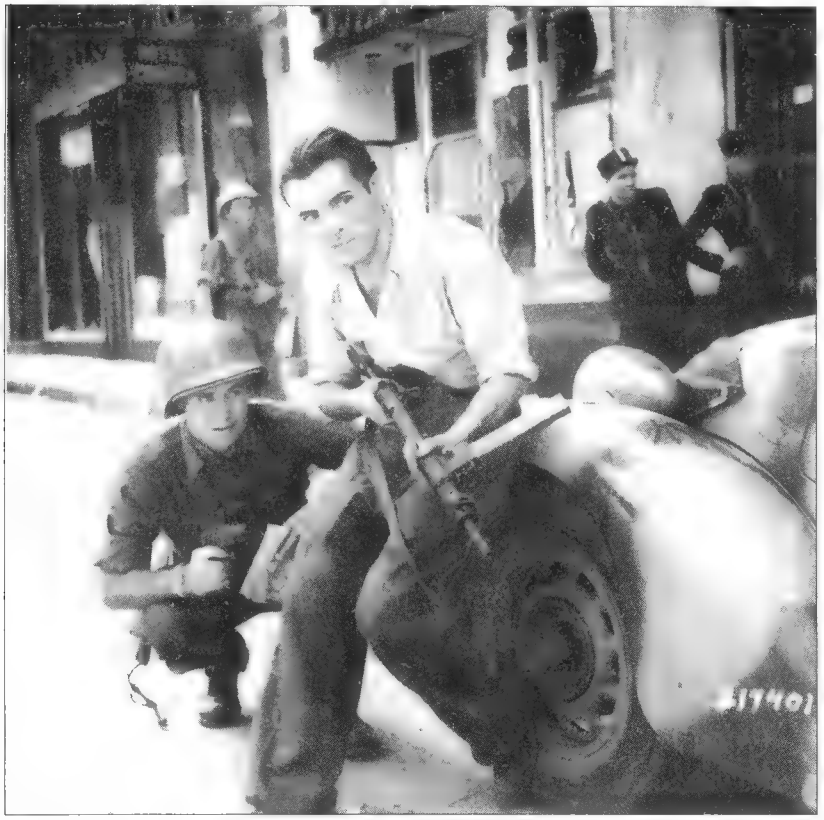


Figure 6-1. An American officer and a French partisan crouch behind an auto during a street fight in a French city, ca. 1944 *(courtesy of the National Archives and Records Administration).*

The remainder of the values listed in Table 6-1 apply only when the computer is in control of a given side. We deal with these values initially as preordained constants and then explain how they can be situationally modified by your action or inaction.

What Is an AI Bucket?

The AI bucket values listed in Table 6-1 govern additional incremental prestige dumps that occur after the initial turn. These dumps are given only to the computer AI opponent, never to human players. Consequently, you never see these numbers when you play the game—only the results of their arrival. When you play the Germans, the Allied bucket values come into play, regardless of whether you are playing a single scenario or the campaign game. Because you cannot play an Allied campaign, the Axis values in Table 6-1 come into play only in single-scenario mode, where you have chosen to play the Allied side.

Here is how it works. The AI bucket value listed is the base number of prestige points the computer is slated to receive during various turns after the initial turn. It is further reduced with the passage of time and the loss of victory objective hexes. The former is a preordained loss rate, so it should be explained first. To see how it works, you must first also understand the AI arrival values listed in Table 6-1.

What Does AI Arrival Increment Mean?

The AI arrival increment listed in Table 6-1 is a constant that allows you to determine both the total number of AI buckets the computer will receive and the turns in which they arrive.

Here is how that process works. To determine the total number of buckets, divide the total number of turns in the given scenario by the AI arrival rate and round down. Later in this chapter, Table 6-2 lists the number of turns in each scenario, in addition to some other data that is discussed later on. You do not have to turn to it now to understand the following example; simply accept the fact that it has the stated number of turns. Let's calculate the total Axis and Allied buckets for the North African scenario, just to put things in perspective.

North Africa consists of 23 turns.

The Axis AI arrival value is 3.

When you divide this equation, you arrive at the total number of AI buckets the computer player receives:

23/3 = 7.6666, which is rounded down to 7

You now know, therefore, that when the computer is playing the Axis, it receives seven Prestige Point dumps after the initial starting prestige. Only two questions remain: During which turns will these dumps arrive and how much will each one be?

Determining the specific turns in which Prestige Point dumps occur is easy. Whenever the number of turns remaining is evenly divisible by the AI arrival number, a Prestige Point dump occurs. In the North African example, this means that Axis AI dumps occur with 21, 18, 15, 12, 9, 6, and 3 turns remaining.

The amount of each prestige dump is easy to determine as well. The first dump you receive always equals the AI bucket value listed in Table 6-1. Each dump after that is reduced by 1/n cumulatively, where n equals the

total number of dumps. In the North African example, the Axis value for n equals 7. Consequently, each value after turn 21 is reduced by one-seventh of the base AI bucket value. If you do the math, you come up with the following prestige schedule for the Axis side in North Africa:

Turn 21 1000

Turn 18 857

Turn 15 714

Turn 12 561

Turn 09 418

Turn 06 275

Turn 03 132

Remember, this preordained schedule of prestige dumps occurs if you do nothing. We explain in a moment how these values can be further reduced. First, let's do the math for North Africa if the computer controls the Allies rather than the Axis.

North Africa still consists of 23 turns.

The Allied AI arrival rate is 4.

When you divide the equation, you arrive at the total number of Allied AI prestige buckets:

23/4 = 5.75, which is rounded down to 5

You know, therefore, that a computer Allied opponent receives 5 Prestige Point dumps after the starting prestige value. Then divide the turns remaining after 23 by 4, to determine that the Allies receive Prestige Point dumps with 20, 16, 12, 8, and 4 turns remaining. Because n equals 5 in this case, the Allies receive one-fifth less prestige on each dump after the initial one at turn 20. The turn 20 dump is the base AI bucket of 1500 prestige. Therefore, the schedule for Allied dumps in North Africa (again, only under computer control) is as follows:

Turn 20 1500

Turn 16 1200

Turn 12 900

Turn 08 600

Turn 04 300

If you use this example in conjunction with Tables 6-1 and 6-2, you can compute the unmodified Prestige Point dumps for computer opponents, regardless of whether they control the Axis or the Allies, for every scenario. We would have saved you that step and computed them in tabular format if not for your ability to modify these values even more. To understand how you can do so, read on!

NOTE: Regardless of the dump schedule, the computer opponent is not allowed to accumulate unspent prestige. When a new dump is scheduled to appear, any remaining prestige from the preceding dump is erased from the ledger first.

Figure 6-2. General Bernard L. Montgomery watches his tanks move up. North Africa, November 1942 *(courtesy of the National Archives and Records Administration).*

Situational Modifier to the AI Bucket

The prestige dump schedules you have just learned how to compute are not cast in stone. You must reduce these values or else you will find it impossible to achieve all your objectives in a given scenario. The manner to reduce them

is to take victory objectives. The more rapidly you do so, the greater the overall reduction. This section explains why.

The actual Prestige Point dump on a given turn is not the scheduled value you just computed, but a percentage of it. The percentage is determined by dividing the number of victory hexes the computer controls at that moment by the number of hexes it controlled at the beginning of the scenario. To continue the North African example, consider the following potential development.

Left unmolested, the Allies receive a Prestige Point dump of 1,500 points with 20 turns remaining. Suppose, however, that you drive north and capture Berta with your ground forces while simultaneously conducting an amphibious assault on Benghazi with the forces you have positioned offshore to the northwest of that city.

Figure 6-3. The initial tactical situation in the North African scenario is ideal for you to quickly reduce the percentage of each prestige dump the Allies can obtain.

By capturing both these victory objective hexes prior to the Allied phase with 20 turns remaining, you have reduced his control from 6 to 4 victory hexes. If you hold these cities for the remainder of the scenario, that is a one-third reduction in the total prestige points available to the Allied commander for the entire scenario. The immediate benefit is that he receives only four-sixths, or two-thirds, of the prestige scheduled to arrive with 20 turns remaining. By doing the math, 2/3 times 1500, you see that the computer opponent

receives only 1000 prestige points for the first dump, vice 1500. This represents a significant reduction in the enemy's capability to counter your offensive. The lesson to be learned from that revelation should be obvious.

WAR LESSON: Be faithful to the concept of the blitzkrieg! Strike swiftly and decisively to minimize the enemy's capability to counter your offensive.

Furthermore, suppose that you have captured a third victory hex by the time 16 turns remain. The original prestige dump for this turn was 1200. By taking half the total number of victory hexes, you cut his prestige dump in half as well. Only 600 points arrive to reinforce the beleaguered garrisons.

The implication here is easy to internalize. When you are on the offensive against a computer opponent, you must capture objectives on a regular basis to sustain that offensive. Otherwise, it gains additional resources over time that increase its capability to stall the offensive even more or, worse, mount a devastating counteroffensive.

Understanding that, you must now consider the situation in which you are on the defensive and the computer is on the offensive. The equations that govern this situation are the same, except that the computer can never obtain more than 100 percent of the scheduled AI dump bucket.

To explain, consider a scenario in which the computer begins in control of three objective hexes. By the time it reaches the first prestige dump, it has captured three additional hexes. Rather than obtain 200 percent of the listed bucket, which is the purely mathematical solution, it is limited to 100 percent of the base value listed in Table 6-1. Naturally, this value is reduced on subsequent dumps by the standard 1/n formula discussed earlier.

If you mount a successful counteroffensive, however unlikely that may be, that takes the computer below its starting value of three hexes. You see the appropriate percentage reduction to its prestige dumps, even if it is on the offensive.

Other Situational Prestige

In addition to the situational modifier just discussed, other related factors alter the total prestige in both human- and computer-controlled games. These factors have to do with the reduction of strategic cities through level bombing, the destruction of enemy units, the initial capture of certain hexes, and continuing control of certain hex types over time. Let's deal with each of these subjects in turn.

Figure 6-4. American soldiers, stripped of all equipment, lie dead, face down in the slush of a crossroads somewhere on the western front. Captured German photograph. Belgium, ca. December 1944 *(courtesy of the National Archives and Records Administration).*

Level Bombing Versus Enemy Prestige Points

As explained in Chapter 4, "Pondering the Pieces," each type of level bomber (light, medium, or heavy), has a base chance of wrecking a city. As you can see in Table 4-4, this base chance equates to 20, 30, and 40 percent for light, medium, and heavy bombers, respectively. This base chance is further modified negatively or positively by the number of strength points above or below 10 at a rate of 2, 3, or 4 percent, depending on the type of bomber. Following this, an additional 10 percent is added for each level of experience the specific unit has accumulated. The total number equates to the percentage chance that a

successful bombing of the city will wreck it (Chapter 4 explains how to rebuild a wrecked city), but one-fourth of this number also equates to how many prestige points are lost when the city being bombed is a victory objective as well.

Let's do another example so that you can follow the math.

A medium bomber with 8 strength points and level 2 experience is bombing a victory hex.

The base percentage chance of wrecking the city equates to this formula:

((30 – ((3 x 2) (for having 8 vice 10 strength)) + ((20) (10 percent per experience level)) = 44 percent

If the attacking bomber makes the die roll, the resultant loss in prestige equals one-fourth of this number, or 11 points.

Prestige Gained by Destroying Enemy Units

A unit's prestige value is the amount of prestige points awarded to you when the enemy unit is destroyed (the last strength point is eliminated). Enemies receive the same bonus prestige when your units are destroyed outright. Consequently, do not afford them this luxury, and rotate your units off the front lines before they are completely eliminated. The prestige value is also equal to the cost for that unit to receive one elite replacement strength point. Normal replacements cost one-fourth of this amount but provide none of the experience that elite replacements do. For a complete listing of prestige values, categorized by country and unit type, see Appendix A.

The base reward for fighting in combat is the prestige number of all the enemy unit's equipment x (the enemy unit's experience level +1) and then halved. Again, you get this reward only if you destroy the last strength point of the enemy unit. If you cause the enemy unit to retreat, you get one-fourth of this reward. If you do more damage to the enemy than it did to you, you receive one-eighth of this reward.

Prestige Gained Through Initial Capture of Hexes

When a port, city, or airfield hex changes sides, the player who takes it gets 40 prestige points and the player losing it loses 20 prestige points. If it is also a victory hex, this value is multiplied by 4. Each player may get these points only once per hex, regardless of how many times it changes sides. The same applies to losing points relevant to each hex of this type.

Figure 6-5. Photo taken the instant bullets from a French firing squad hit a Frenchman who collaborated with the Germans. This execution took place in Rennes, France. Himes, November 21, 1944 *(courtesy of the National Archives and Records Administration).*

Prestige Gained Through Continuing Control of Hexes

During every turn of the game, the player on the offensive receives one point per port, city, or airfield controlled, exclusive of victory objective hexes. The offensive player receives four prestige points per turn for each victory hex held. The defending player, whether human- or computer-controlled, receives four points per port, city, or airfield controlled, and eight points per victory hex controlled.

How To Lose Prestige

Simply put, prestige points are lost by allowing the enemy to successfully pursue the same strategies you would use to gain them from him. If you always remain alert to not only your opportunities but also those of your enemy, you can thwart them through preemptive proaction vice retrospective reaction.

How Prestige Is Spent

Although prestige has been compared to money in one sense, we must state that prestige can neither accumulate interest nor be invested in research and devel-

opment. In other words, it serves no purpose to allow prestige to accumulate when your core forces are not full. Also, nothing you do can make newer weapon types available sooner than their historical dates of inception (unlike other strategic wargames). Consequently, let's focus on how best to use your prestige within the context of *Panzer General*. You have three options: Reinforce existing units, build new units, or upgrade the equipment of existing units.

Reinforcing Existing Units

To understand the prestige costs surrounding replacements, both normal and elite, for existing units, see Chapter 3, "Operational Analysis."

Building New Units

Building a new unit is slightly more expensive than reinforcing an existing one; it costs 12 times the value listed in Appendix A vice 10. These units are also less valuable in that they enter the game devoid of battlefield experience. Nevertheless, to win campaign games, you must increase the size of your core forces over time and carefully season them in the crucible of battle to build that experience. Table 6-2 provides the total number of core forces available per scenario in addition to a number of other pertinent values.

Table 6-2

Attack Posture, Maximum Units, and Turn Data by Scenario

Scenario	Posture Axis	Posture Allied	Starting Weather	Max Core	Max Aux	Max Allied	Turns	Days/ Turn
Poland	Att	Def	Fair	15	0	11	10	1
Warsaw	Att	Def	Fair	20	0	15	20	1
Norway	Att	Def	Fair	22	15	40	25	1
Low Countries	Att	Def	Fair	26	16	49	30	1
France	Att	Def	Fair	28	3	45	26	1
Sealion (40)	Att	Def	Fair	29	35	84	15	2
North Africa	Att	Def	Fair	30	20	45	23	4
Middle East	Att	Def	Fair	34	22	70	26	3
El Alamein	Att	Def	Fair	36	25	63	26	5
Caucasus	Att	Def	Fair	38	45	85	30	5

Scenario	Posture Axis	Posture Allied	Starting Weather	Max Core	Max Aux	Max Allied	Turns	Days/ Turn
Sealion (43)	Att	Def	Fair	42	32	103	15	2
Torch	Att	Att	Fair	39	2	80	24	6
Husky	Def	Att	Fair	41	30	75	21	4
Anzio	Def	Att	Fair	44	3	52	14	8
D-Day	Def	Att	Fair	45	25	94	15	2
Anvil	Def	Att	Ovcst	46	2	55	23	1
Ardennes	Att	Def	Ovcst	48	10	75	32	1/2
Cobra	Def	Att	Fair	46	2	70	25	1
Market-Garden	Def	Att	Fair	47	14	75	16	1/2
Berlin (west)	Def	Att	Fair	50	20	80	13	3
Balkans	Att	Def	Fair	30	75	101	25	1
Crete	Att	Def	Fair	31	23	45	13	1
Barbarossa	Att	Def	Fair	32	2	60	23	2
Kiev	Att	Def	Fair	33	35	80	28	1
Moscow (41)	Att	Def	Fair	34	30	115	22	3
Sevastopol	Att	Def	Fair	36	6	63	17	1
Moscow (42)	Att	Def	Fair	40	27	105	23	4
Stalingrad	Att	Def	Fair	38	28	95	31	5
Kharkov	Att	Def	Fair	42	21	55	22	1
Kursk	Att	Def	Fair	43	40	115	20	1
Moscow (43)	Att	Def	Fair	44	27	122	21	4
Byelorussia	Def	Att	Fair	45	2	60	23	3
Budapest	Att	Att	Fair	49	2	75	20	1
Berlin (east)	Def	Att	Fair	50	20	80	13	3
Berlin	Def	Att	Fair	50	32	140	13	3
Washington	Att	Def	Fair	50	25	115	22	3
Early Moscow	Att	Def	Fair	34	30	135	24	3
Sealion Plus	Att	Def	Fair	29	43	85	15	2

Note: The order of scenarios in this table corresponds to that used on the Scenario Selection screen. It is neither a chronological listing nor the order in which scenarios appear in a campaign game. For an understanding of the latter, see the flow chart at the end of Chapter 7, "Winning The Battles."

Core Versus Auxiliary Unit Purchases

The maximum number of core units available to you increases over time. During a campaign game, you always want to expend prestige to maintain the maximum number of units, or as close to it as possible with the resources at hand. You do not, however, want to waste prestige on the purchase of additional auxiliary forces in a campaign game. These units are useful for only the current battle, and any prestige you waste on them would be wiser spent upgrading the equipment of your core units.

In single-scenario play, the approach is different. You generally want to keep the full complement of units, both core and auxiliary, on the board (resources permitting). Also, because unused prestige cannot be carried forward to future battles, you have no incentive to restrain your spending.

Upgrading Equipment

When your core forces are at full strength, the best way to spend prestige is by upgrading existing units to better equipment. Remember that it costs only 10 times the value listed in Appendix A to upgrade a lesser unit to that type of equipment rather than 12 times the listed value to build a new unit of that type. Some rules of thumb and advice about on this process are in order.

First and foremost, always upgrade your most experienced units of a given type first. They are already the most effective and survivable combat formations you have, so maximize those attributes. Also, never waste an upgrade on anything less than the newest and greatest equipment to hit the field.

WAR LESSON: If you are upgrading infantry, it is usually best to spend a few extra points above the cost for pionieres to get bridging engineers. The latter proves invaluable in crossing the many rivers you encounter in the Russian scenarios. Also, when you are upgrading armor, make sure that you split your forces equally between units with higher hard attack values and those with higher soft attack values. As an example, compare the statistics on PZIIIJs and PZIVDs. By not skewing too far in either direction in your unit mix, you retain enough flexibility to deal with widely diverse threats as they emerge.

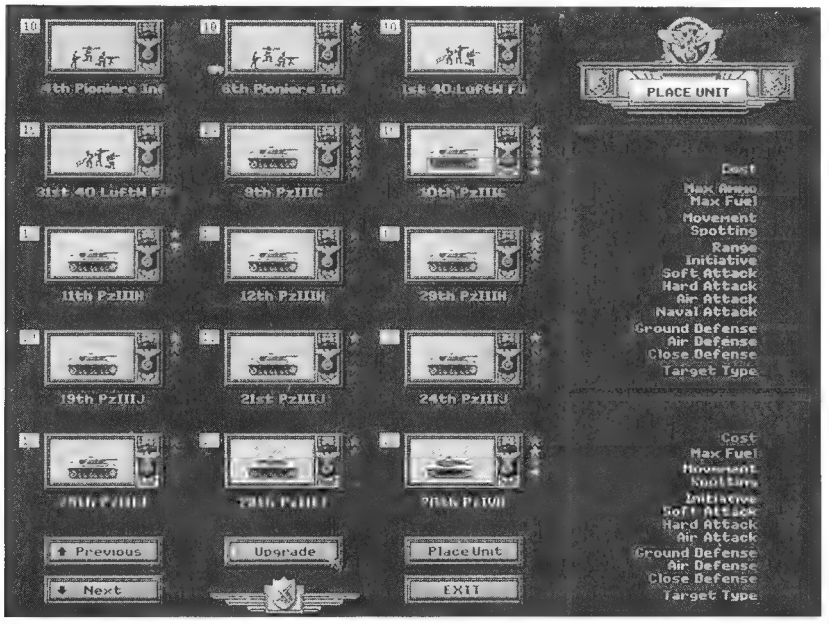


Figure 6-6. The easiest time to upgrade your units is during the deployment phase of a new scenario, prior to actually placing them on the map.

Using Your Influence at Key Junctures in a Campaign Game

In the campaign game, there are two points at which you can expend prestige to influence events. If you knock France out of the war decisively in the early going, you are given an opportunity to conduct Operation Sealion. You also are asked whether you are willing to expend 1000 prestige points to obtain the support of the Italian navy (which means that you go to the Sealion Plus scenario) for the coming operation. Say Yes. Their support is crucial to keeping the British fleet out of your knickers long enough to win.

The second situation you encounter follows a decisive victory in Barbarossa. You are asked whether you are willing to spend 1500 prestige points to bypass Kiev and go straight to the Early Moscow scenario. Again, you should do so.

Special-Case Scenarios

Regardless of everything else you have learned in this chapter, two scenarios have special prestige dumps built-in to them to more closely replicate the his-

torical influx of reinforcements to these battles: Ardennes and Kursk. In the Ardennes (colloquially remembered as the Battle of the Bulge), the Allied side receives special 3000 point prestige dumps on turns 4, 12, and 20, regardless of whether they are under computer or human control. In Kursk, there are 3000-point Allied dumps every five turns. Again, human players of this scenario enjoy these dumps as well.

Figure 6-7. With torn picture of his feuhrer beside his clenched fist, a dead general of the Volkssturm lies on the floor of city hall, Leipzig, Germany. He committed suicide rather than face U.S. Army troops who captured the city on April 19, 1945. T5c. J. M. Heslop *(courtesy of the National Archives and Records Administration).*

Conclusion

It has been said that logistics is the science that wins wars. Whereas other wargames are built around this fundamental consideration, *Panzer General* has simplified these issues to keep the game manageable for novice players. In the place of logistics, however, SSI has given us a much more fascinating model to experiment with. Prestige, and the considerations that surround it, is the driving force that propels the campaign game forward. You now know more about this fundamental precept of the game than any other Panzer General you encounter (except those who also invested in this intelligence briefing). Let's use that knowledge now on the field of battle. The enemy is directly ahead of you. Turn the page and learn how to reduce his dreams to ashes.

To-days
TONNAGE
TARGET
20 000 TONS
19 000 "
18 000 "
17 000 "
16 000 "
15 000 "
14 000 "
13 000 "
12 000 "
11 000 "
10 000 "
9 000 "
8 000 "
7 000 "
6 000 "
5 000 "
4 000 "
3 000 "
2 000 "
1 000 "
RED BALL
HIGHWAY
STAY ON THE
BALL
KEEP 'EM
ROLLING!

7

Winning the Battles

"You ask: 'What is our aim?' I can answer in one word: 'Victory!' Victory at all costs, victory in spite of all terror, victory however long and hard the road may be; for without victory there is no survival."
—Winston Churchill, in the House of Commons, May 13, 1940

In this chapter, we present much of the "hard-wired" information that is available for every scenario in *Panzer General*. This chapter presents at-a-glance information for your reference. Each scenario listing begins with the appropriate preface from the German player's perspective as seen during campaign games.

When starting experience levels are listed, multiply these numbers by ten and think of them as the beginning experience points for every unit of that type. Beginning experience levels apply only to German, Russian, British, and American units. In most cases, minor country troops (including the French and Italians) should have no starting experience. In the 1943 to 1945 scenarios, however, some Allied troops fighting with the British and Americans may have similar beginning experience levels.

Corporal Charles H. Johnson of the 783rd Military Police Battalion, waves on a "Red Ball Express" motor convoy rushing priority material to the forward areas, near Alenon, France *(courtesy of the National Archives and Records Administration).*

This discussion of scenarios presents them in the order in which they appear on the Scenario screen. Listed after the name of each scenario is the number of turns in the scenario, the minimum number of objectives required for an Axis victory, and some playing tips from play-testers. For each scenario, the Allied victory conditions are simply to prevent the Axis powers from achieving their victory.

There are scenarios to suit a variety of historical interests or tactical tastes. We suggest that you try the tutorial first to gain familiarity with the game system and then try other scenarios. If you want a stiff siege, try Sevastopol. For the classic encirclement battle, refight Kiev. If mobile steppe tank warfare is your interest, play Kharkov. Play Kursk for a mass armor assault; Budapest for a head-on slugging match; Crete for heavy airborne action; Crete, Norway, Sealion, or North Africa for a naval battle; El Alamein or Torch for a duel in the desert; Anvil, Anzio, or Norway for mountain warfare; D-Day for a major amphibious operation; Cobra for a fight against hopeless odds; and the Low Countries or Barbarossa for the classic blitzkriegs of the war.

In the scenario discussions that follow, you will find a summary of the victory conditions and time limits in addition to scenario-specific strategies for both Axis and Allied players. You should not consider any of these strategies so comprehensive that other approaches are invalid. Rather, each represents one possible solution to the strategic and tactical problems depicted in the scenarios. These strategies have been proven in combat, however, so they should provide an excellent foundation for additional exploration and experimentation, if you are so inclined.

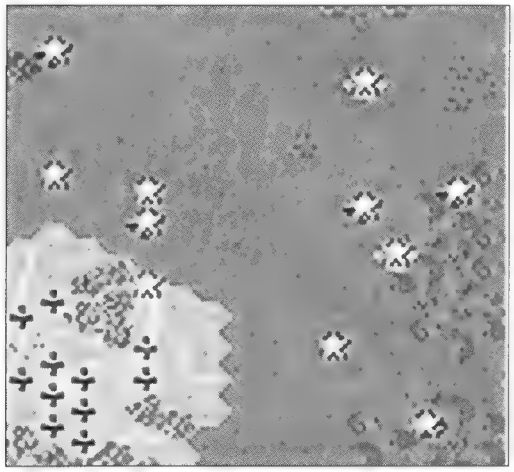
Occasionally, we have also interjected important scripted information that appears at the key player decision points during a campaign game. Here you can interject your opinion regarding a debate in strategy or choose which front you will serve on for the next scenario. Some overall guidance for the individual campaigns is presented at the end of this chapter as well as a comprehensive flowchart that delineates all the possible win-loss paths you might take through the game.

With that established, it is now time to get some mud on your boots. On to the battlefields, gentlemen, and may the best Panzer General win!

Poland

Your first mission in Operation Fall Weiss, the conquest of Poland, is to capture the key cities of Rutno and Lodz by September 10. This conquest keeps open the possibility of conquering Poland before the French and British can launch an attack on Germany. If these objectives are taken before September 10, additional forces may be available to you for the upcoming assault on Warsaw.

The Strategic Map/Scenario Errata



Starting date: September 1, 1939

Number of turns: 10

Days per turn: 1

Weather zone: Eastern Europe

Campaign game maximum core units: 15

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	0	0
Land	0	0
Naval	0	0

Note: There are no air or naval units in this scenario, and many German unit types are not available for purchase. This scenario is the first one in the 1939 campaign game as well as in the tutorial scenario.

Victory Conditions

To achieve a decisive victory, you must take all your objectives before Turn 8. You are credited with a minor victory if you have to use turns 8 or 9 to obtain your objectives. You know that you have lost this scenario when all your objectives are either lost or not taken by the German forces before the game ends. This is true for each scenario.

Axis Strategy

Because this scenario is used as the tutorial scenario in the manual, there is no need to elaborate here.

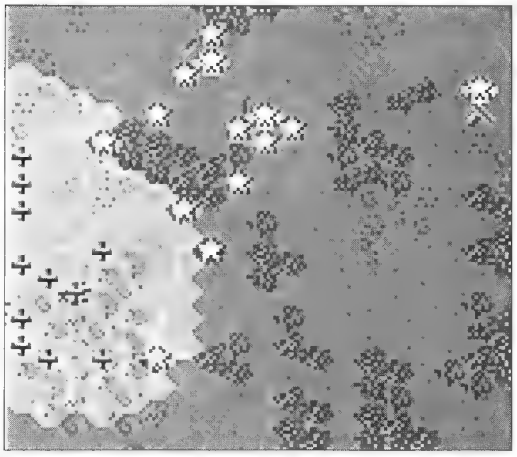
Allied Strategy

The Polish tanks are your strongest units. The TK3 is good against soft targets, such as infantry and artillery; the 7TP is strong against hard targets and is formidable against the weaker German tank units. Use your tanks to stall the Axis advance at the Warta River as long as possible, and note that flank attacks on the Germans from Posen southward can often divert enemy strength. Sometimes you can even hold Kalisz, but it is likely to be costly and risky.

Warsaw

Your next assignment is to take Warsaw and several adjacent cities by no later than September 30. Intelligence warns you that the French and British are preparing to launch an attack toward the Rhine within two to three weeks, so it is important to take all your objectives as soon as possible.

The Strategic Map/Scenario Errata



Starting date: September 11, 1939

Number of turns: 20

Days per turn: 1

Weather zone: Eastern Europe

Campaign game maximum core units: 20

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	0	0
Land	.3	0
Naval	0	0

Note: You must build air units in order to stand a chance of winning this scenario. Build fighters to clear the skies, and tactical bombers to directly support your ground troops.

Victory Conditions

A successful, decisive victory is yours if you take all the objectives before Turn 14. If you obtain all the objectives between turns 14 and 20, you receive a minor victory.

Axis Strategy

First, seize control of the air with a fighter. After you control the skies, your air force can bomb and strafe the Allies with impunity. Second, you have air transport available—use it. Third, consider raising a pioniere or bridging engineer unit, if you can afford it, to let you cross the Vistula at will and help storm the fortifications. Finally, keep pressing forward at all your objectives—don't wait until Warsaw falls to go after the other objectives.

Allied Strategy

You have the advantage of being on the defense with powerful fortifications to protect you. Unfortunately, your air force is outclassed, and your artillery is outranged. Keep your artillery behind the lines, where it is protected from direct attack and can offer defensive fire support for defensive positions held by infantry or anti-tank guns, or spoil an attack by bombarding enemy units which move adjacent to your units. Garrison the objectives strongly. Keep armored reserves for counterattacks, and bear in mind the discussion about Polish armor for the Poland scenario. Use your air force defensively—you can shoot up the enemy bombers but are outmatched by their fighters. Your bombers are as good as the German bombers, but you have to escort a bomber with a fighter.

Norway

Your excellent leadership has led us to appoint you as the commander of our combined naval-air-land assault on Norway, code-named Operation Weserubung. Your goal is to capture all objectives in southern and central Norway by May 3. Your forces must be free to redeploy for the upcoming campaign in France, which is slated to begin May 10. You should complete your mission as early as you can. This allows us a longer chance to rest, refit, and upgrade your troops before the invasion of France.

Strategic Map/Scenario Errata

Starting date: April 9, 1940

Number of turns: 25

Days per turn: 1

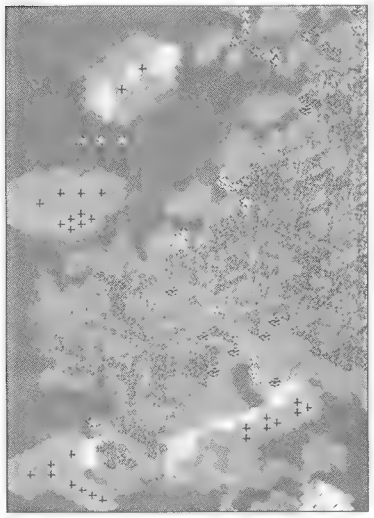
Weather zone: Northern Europe

Campaign game maxi-mum core units: 22

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	.7	.2
Land	.5	0
Naval	0	1

Note: Here you use combined land, air, and naval forces in an operation that is not as easy for the Germans as it looks. Although the main pass between Oslo and Trodenheim is the shortest route, consider a maneuver along the wooded corridor in the eastern part of the map as well!



Victory Conditions

To decisively conquer Norway, you must obtain all your objectives by Turn 20. A minor victory is yours when you take Norway in 21 to 25 turns.

Axis Strategy

This is a big jump up in difficulty from Warsaw because it includes a great deal of rugged terrain, and air and naval elements, each important to victory. Your southern landing group should concentrate on securing the Oslo region while a small detachment takes Stavanger and then springboards up the coast, city by city, with naval help. These initial successes gain you two important airfields. Press on up the Lagen River valley through Lillehammer to Trondheim to link up with the northern landing group. Sending a force by the overland route up the Glomma Valley is slow (it needs at least half-tracks)

but, in combination with paradrops farther north, it can divert Allied forces from the defense of Trondheim and perhaps gain a base of attack from which you can attack Namsos from the east.

The fate of the northern group depends largely on the outcome of the naval battle. Infantry and unarmored artillery cannot long survive heavy shore bombardment, so an attack on Trondheim is limited until the Axis fleet can consolidate off Bergen and then draw off Allied sea power. Sometimes the Axis forces can even win the naval war and provide shore bombardment support along the coast, but while the issue is in doubt the northern force can capture Molde and nearby cities while waiting for reinforcements from the southern landing group.

The air war is extremely important—you begin with a slight edge, which you have to turn into air superiority. The Norwegian air force is easy prey, but the British fighters are as good as yours and cause serious trouble for you if you let them gain an edge on you in experience. In particular, don't let them learn their trade by target practice on unescorted Axis bombers and air transports. You may consider requisitioning a level bomber with a good naval attack rating to help the German navy in the Norwegian Sea. The navy has a tough job, especially until the northern and southern task forces can unite to face the Allied fleet that steams to the defense of Trondheim. The first thing to remember, however, is to screen your troop transports from Allied naval attack if you want them to survive to fight on Norwegian soil. Your U-boats, particularly if they're supported by destroyers, can pose a serious threat to the rear of the Allied fleet.

Allied Strategy

You can win this one if you can successfully block and delay the Axis advance at a few key chokepoints. You may be able to stop the Axis forces on the beaches in the north, but in the Oslo region you have to ensure some deeply entrenched troops in Hamar and Elverum. These units can hang on when they're driven out into the nearby mountains and can tie down a large number of Germans for some time. The constricted Lagen River valley around Lillehammer is another good defensive position, particularly if you can hold your own in the air and get your bombers through against enemy units floundering in the river hexes. The next defensive position you can fall back to is Trondheim itself, and this position is the strongest—your likeliest chance of

winning is by holding it permanently. If Trondheim falls, you can still hold the Axis forces to a slow pace as they move up on Namsos. Steinkjer can prove to be a thorn in the enemy's side.

Air power should be concentrated in the Trondheim-Namsos area and backed up by good air defenses to keep the Axis bombers at bay. This strategy may mean that Axis paratroops can slip past you, so be sure to place at least a Norwegian unit as a garrison in each important city to prevent a threat from springing up in your rear. Keep your air units alive, especially the precious British fighters, and try to gain an experience edge on the Luftwaffe.

Your fleet is initially superior in the Norwegian Sea until the rest of the German navy arrives from the southern coast. You should always try to catch unwary Axis transports at sea and sink them, but you will probably wind up fighting their escorts. Then you face the choice of trying to pursue and defeat the Axis fleet or staying close inshore and supporting your ground forces in the Trondheim area. Make sure to screen your capital ships with your escorts because a U-boat can cause a great deal of damage if it penetrates your defenses.

The Low Countries

You are to annihilate the French, British, and Belgian armies located west and north of the Ardennes. To ensure their destruction, the early capture of Paris, and the opportunity to invade England this summer, you must advance to the English Channel and capture all the objectives no later than June 8. A swift blow, delivered to the Allied armies as soon as possible, is essential to allow time for an invasion of England this year.

The Strategic Map/Scenario Errata

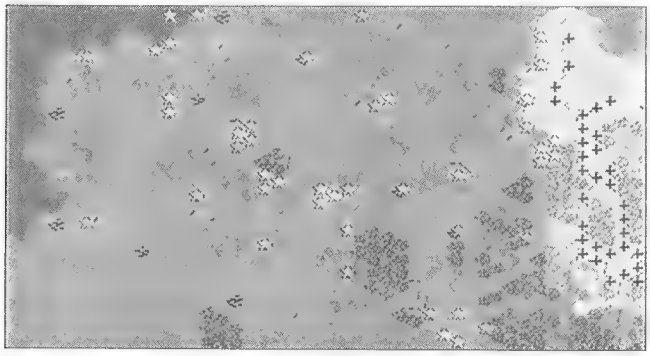
Starting date: May 10, 1940

Number of turns: 30

Days per turn: 1

Weather zone: Northern Europe

Campaign game maximum core units: 26



Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1	.2
Land	.7	0
Naval	0	1

Note: For the Germans, beware of getting bogged down in assaulting fixed defensive fortifications. You must use your mobile forces to strike quickly and deeply into the Allied rear areas.

Victory Conditions

To be victorious in the Low Countries, you can either take all your objectives by Turn 25 (decisive) or finish taking your objectives between turns 26 and 30.

Axis Strategy

The heart of blitzkrieg is punching through the enemy line and striking deep beyond it, with second-echelon forces following behind to mop up. Lead with recon and tank units followed by half-track mounted infantry and artillery that are better able to withstand enemy shooting than truck-mounted troops are. An important advantage of striking deep is that the enemy has to reinforce his rear areas rather than strengthen his forward positions, and you won't give him time to entrench very strongly. You may also get the chance to smash vul-

nerable support units and surprise enemy anti-tank guns or other units while they are mounted on trucks.

You have a number of lines of advance from which to choose. At least a small battle group should advance through Luxembourg to Sedan and ultimately past Maubeuge toward Abbeville, and a large one must advance from south of Liege to Namur. Then you may thrust toward Maubeuge or Brussels, divide and attack both, or strike between them directly on Lille and rely on mop-up forces to secure these two objective cities. A third line of advance is from Maastricht toward Brussels, sometimes continuing toward Lille and merging with the central thrust and sometimes striking a northerly course to Ostend. Combined arms tactics are necessary to counter the deeply entrenched Allies and their strong heavy tanks. Bypass enemy pillboxes and forts if possible—they can't move, so they can't do any harm after you move on.

Seize air superiority and keep it. Your Stukas must be free to support your ground troops against tough entrenchments and enemy armor, and your fighters and level bombers should hone their skills against soft targets after the Allied air force is eliminated.

Allied Strategy

The first goal is to slow the enemy down. Unfortunately, there is little you can do to stop the German onslaught in the defensively favorable Ardennes. Liege is also ultimately doomed, but at Sedan, Namur, and generally along the line of the Meuse you can at least delay the crossing for a few turns while building your defenses. Meanwhile, your combined-arms garrisons can dig in at Maubeuge, Brussels, and Lille, with a final defensive position using the favorable terrain around Calais. Garrison your rear-area cities and airfields with infantry against enemy paratroops or air-transportable forces, and don't waste your armor forces in piecemeal and head-on resistance to the Germans. Group them at least in pairs and keep them alive to divert the enemy forces from attacks on your cities and to counterattack when the enemy makes a mistake. Your heavy tanks are better than the Axis armor.

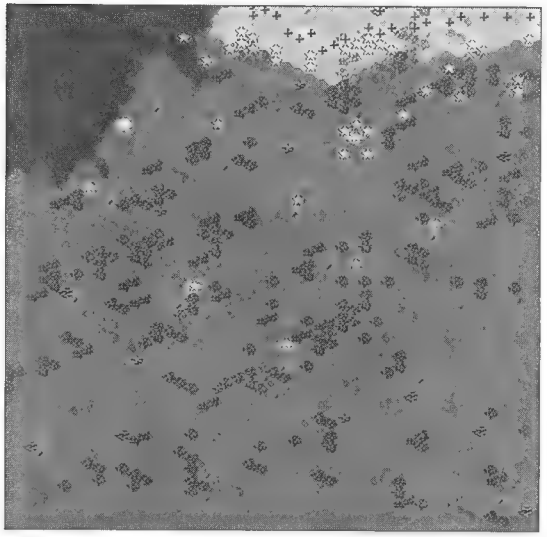
You can make the most of an inferior air force by using your fighter force cautiously to pick off exposed enemy bombers rather than face the Axis troops head-on. Air defense units are valuable in making the Germans pay a

price for bombing your cities and in weakening the enemy air units to facilitate your fighter attacks. Keeping an air force as a threat also encourages the enemy to use fighters to escort bombers rather than allow them to attack separately or go after your bomber missions. Your bombers can also be held back and sent out together with the fighters in a mass wave that stretches the German fighter force.

France—Part 1

All that stands between you and victory in the West is a quick knockout blow against the disorganized French and British armies in France. Your mission is to break the French "will to resist" by taking Paris and all other objectives by no later than July 30. Because of the difficulties involved in preparing for an invasion of England, however, it is essential that you end this campaign much sooner if at all possible. Otherwise, the opportunity to invade England this summer will be lost. The upcoming battle for France is the most important campaign you have yet to participate in.

The Strategic Map/Scenario Errata



Starting date: June 5, 1940

Number of turns: 26

Days per turn: 1

Weather zone: Northern Europe

Campaign game maximum core units: 28

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.5	.2
Land	1	0
Naval	0	1

Note: This is the France scenario you play when you choose it from the scenario list.

Victory Conditions

France can be won by taking all your objectives between turns 25 and 30. This is a minor victory. To win decisively, take all your objectives by Turn 25. The same conditions apply for the second part of France.

Axis Strategy

Let's do the "blitzkrieg" again. Break through the French defense line at one or more points and keep moving. Using three battle groups is a natural organization for this battle: one driving down the coast to Le Havre and Caen and then southeast to Le Mans; a large battle group fighting through to Paris and then splitting to attack Le Mans via Chartres and to attack Tours via Orleans; and a third battle group pushing to Montargis and taking Reims and Troyes en route. An alternative plan is to break through in force on the Ham-Reims front through Thierry while pinning along the rest of the front. After driving to Paris behind the French troops to the north, the force splits into three battle groups heading to Caen and Le Havre on the coast, to Le Mans and Tours via Chartres, and to Orleans and Montargis.

Whatever route you take, speed is essential and you should apply the blitzkrieg lessons learned in the Low Countries: Keep pushing forward, control the air, and watch out for those French heavy tanks!

Allied Strategy

If you are lucky, the Germans will attack all along the line and slowly force you back. It is more likely, though, that some will get past you and you will have to retreat to get into action again. Paris is the key to your defense—the fortifications, woods, and river all contribute to its defensive strength. Tours and Le Mans are not as good, but you should build up their defenses as your final chances to stop the Axis juggernaut. If the Axis forces break through the front, try to get your army on the Somme back to help defend Paris. Use your excellent heavy tanks in groups to counterattack and disrupt the Axis advance—concentrate on soft targets rather than waste effort on the German armor. Your air force is heavily outnumbered—try to take out the Axis bombers, and consider spending prestige on ground troops and air defenses for your key strongholds rather than on new aircraft.

France—Part 2

All that stands between you and victory in the West is a quick knockout blow against the disorganized French and British armies in France. Your mission is to break the French "will to resist" by taking Paris and all other objectives by no later than July 30. Although it now appears that you have lost the chance to invade England this summer, it is imperative that you destroy the French armies as quickly as possible. Your future in the Wehrmacht is heavily influenced by your performance in this campaign.

The Strategic Map/Scenario Errata

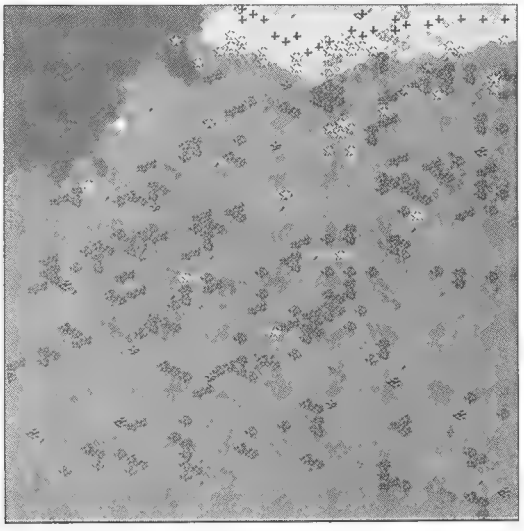
Starting date: July 5, 1940

Number of turns: 26

Days per turn: 1

Weather zone: Northern Europe

Campaign game maximum core units: 28



Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.5	.2
Land	1	0
Naval	0	1

Note: This is a special variation of the normal France scenario used only during campaign games. You play this scenario when it is impossible to invade England in 1940. The only change between this and the other France scenario is a later starting date (and corresponding ending date).

Victory Conditions

This part of France has the same requirements for victory as the first part (see the preceding mission).

Axis Strategy

There are no changes in strategy between France Part 1 and France Part 2.

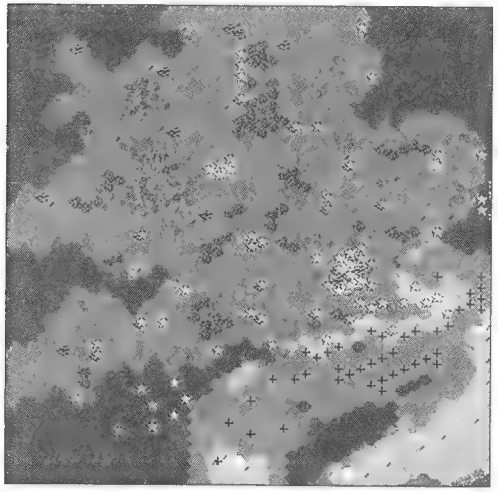
Allied Strategy

There are no changes in strategy between France Part 1 and France Part 2.

Sealion

Your next mission is to take London and the industrial heart of England. You must do so before limited shipping and the storms in the English Channel force you to withdraw your invasion forces.

The Strategic Map/Scenario Errata



Starting date: September 1, 1940

Number of turns: 15

Days per turn: 2

Weather zone: Northern Europe

Campaign game maximum core units: 29

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.7	1
Land	1.3	.5
Naval	.5	1.5

Victory Conditions

"In three weeks, England will have her neck wrung like a chicken's."
—General Weygand, April 1940,
quoted in *Winston Churchill,*
The Second World War, 1948-54

You can decisively take Sealion by conquering all your objectives by Turn 13. You can celebrate a minor victory if you take all your objectives after Turn 13 and before Turn 15.

If you win, you receive the following communiqué from the German High Command:

"Congratulations on your stunning victory. England has surrendered and the war in the West is now over. It is time for the war in the East to begin. While you and your army rested, we conquered Yugoslavia and Greece."

If you lose, the news is less pleasant:

"Dateline Berlin: November 1, 1940. We are sorry to announce today that Operation Sealion has failed. U.S. destroyers lent to the British Navy and several bad storms in October proved to be catastrophic."

"We shall defend every village, every town and every city. The vast mass of London itself, fought street by street, could easily devour an entire hostile army; and we would rather see London laid in ruins and ashes than that it should be tamely and abjectly enslaved."
—Winston Churchill, radio broadcast, 14 July, 1940

Axis Strategy

In all the Sealion scenarios, naval action is relatively peripheral compared with air power, which is essential to ensure adequate close air support on the ground and ensure that your paratroops get through to and take their objectives via the air. Your naval forces can help with some bombardment early on, after which their main task is to engage the Allied fleet and keep it from interfering with the land battles, particularly around London. Your U-boats can wreak havoc on the Allied capital ships if the Allied escorts can be cleared away.

Your time is limited, so you should attempt to seize all your objectives concurrently rather than in sequence. The least diversion can be fatal. After you have secured a beachhead, divide your forces into four battle groups. The first battle group, landing in the east, is to take Canterbury and then assist with artillery in the attack on London from the east, but its main thrust actually passes by London across the Thames and heads toward Norwich, supported by the nearby naval task force. A bridging unit can be quite useful. The second battle group assaults London from the south and is weighted toward artillery and infantry units but includes some tanks to help deal with Allied armor.

The third and fourth battle groups are smaller and advance on Birmingham and Bristol, respectively, although initially they advance jointly on Winchester, Newbury, and Oxford before splitting. The third battle group can be aided by advance airborne landings near Birmingham, or the parachute forces can be used to seize Peterborough or Harwich and then Norwich, in which case the first battle group encircles London from the north rather than continue north to Norwich.

Sealion Plus is easier because the presence of the Italian fleet speeds the destruction of the Allied navy, whereas in Sealion 43 the Allies are much better prepared and the fight is tougher.

Allied Strategy

Although it is best to catch the Axis ground troops in their transports with your air or naval forces or force them to surrender on the beaches, this strategy is risky, and it is likely that they will obtain secure footholds from Dover to Portsmouth regardless of your efforts. Concentrate any early attacks on artillery, pionieres, and engineers—the most essential troops for the Axis attack on London. Your overall strategy is to use the enormous fortress of

London and its garrison to block their direct advance while using additional forces to keep them from slipping around it. Holding on to London until Turn 12 isn't worth much if the Germans are already in the Midlands. Your strongest defense line after the Axis forces have secured a lodgment on English soil runs from London along the Thames to Newby and Winchester. While you hold the enemy advance on this line for several turns, you can dig in blocking forces and garrisons to defend the approaches to Bristol and, especially, to Birmingham. Don't forget the air defenses!

Your air force is relatively good, and in 1943 the American air force can play a significant role if it survives long enough to catch up in experience. Contest Axis air superiority whenever it's feasible, but early on try to pick off or hunt down the troublesome Axis paratroops to keep your rear areas secure.

Because the key battles are inland, the Axis navy plays a small part. Your navy can initially try to win naval superiority or instead concentrate on supporting your defense line with shore bombardment. The choice involves a trade-off, and either option can pay off.

The "Where in the Med?" Question

During a campaign game, after matters in the West have been resolved in such a way that Sealion cannot be conducted during 1940, you are offered the following choice:

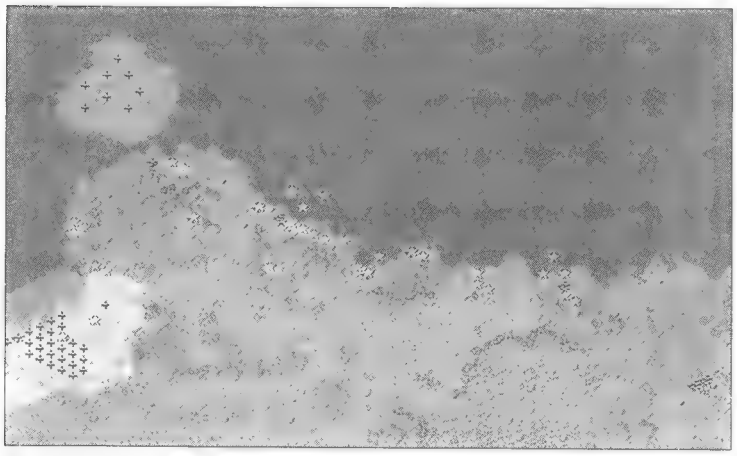
> "We are preparing for operations next year against the British in North Africa and against Yugoslavia and Greece. Your performance to date has been outstanding and we will be happy to allow you to choose your next operation for yourself and your army."

Your decision takes you to either the North Africa or Balkans scenario.

North Africa

It is time for you to teach the British a lesson. You are to take all your objectives, including Tobruk and Mersah Matruh, and thus clear the road to Cairo by June 30. Earlier success can prove decisive because the British presence on Malta is likely to make your supply situation in North Africa precarious.

The Strategic Map/Scenario Errata



Starting date: March 31, 1941

Number of turns: 23

Days per turn: 4

Weather zone: Southern Europe/North Africa

Campaign game maximum core units: 30

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.7	1.2
Land	1.3	1
Naval	.5	2

Victory Conditions

All objectives must be taken by Turn 20 for a decisive victory. If Allied forces prevent you from taking all objectives by Turn 20, you can still claim a minor victory by taking the objectives in 23 turns or fewer. If you are unsuccessful, things definitely take a turn for the worse; the telegram you receive states: "After your failure in North Africa, Germany was forced on the defensive for the past year. The Americans are about to make your life even more difficult with Operation Torch."

Axis Strategy

Blitzkrieg is again the watchword: Thrust forward not only along the coast but also across the desert by the trails headed to Mechili and Bir Hacheim. Start softening up Tobruk as early as you can, but don't let it delay you long, because you have to keep pushing your forward elements east and face the choice of slogging through the defended coastal area or marching across the desert. It's a long way to Mersa Matruh. You can use the Italians to scout ahead, but they lack the equipment to assault the strong British positions, and they work best mopping up bypassed enemy units.

Pay attention to logistics in the desert; after you run out of ammo and fuel, it takes a great deal of time to come back up to par, and you don't have much time to spare. Enemy air power can pound you as you struggle across the desert, so use your air force to help get your troops into attack positions, but keep them busy bombing and strafing while doing so. Your fleet, aided by air power, can beat the Brits and help with shore bombardment later in the battle, when you need it most, as you struggle out of the desert to confront heavily entrenched defenses.

Allied Strategy

A good combination of stiff defense and mobile defense keeps the Axis forces moving forward in short steps along the coast. If you force the Axis to a crawl along the coast, they have to risk the desert, where skillful use of your level bomber force can stop them by destroying the ammo and fuel of key units. Armored counterattacks from the coast into the desert also make it hard for the Axis forces to press forward while their flanks are vulnerable.

Preserve your air force, build up as much experience as possible, and let

the air defense units carry much of the weight. The Axis powers need air power the most late in the battle, and it is crucial that you still have at least some fighter strength left at that time to counter theirs. Your naval forces should defend your land forces from interference by the Axis fleet. Again, saving some reserves for the late stages of the battle can prove useful.

The Desert or Steppe Question

Following the North Africa scenario, you are given a choice of either conducting another desert campaign or being transferred to the Russian front. The dispatch reads:

> "An opportunity has now arisen for you to assume command of the upcoming battle for Kiev in Russia. However, if you decide to stay in North Africa you have one more chance to finish the British in Egypt."

If you stay in the desert, you are off to El Alamein. In Russia, the scenario that is played is Kiev.

Middle East

It is time for you to end British domination over the entire Middle East. If you succeed, the British may be weakened sufficiently to allow you to mount an invasion of England. As an alternative, you may be able to influence the war in Russia by opening a new invasion route into the Caucasus.

The Strategic Map/Scenario Errata

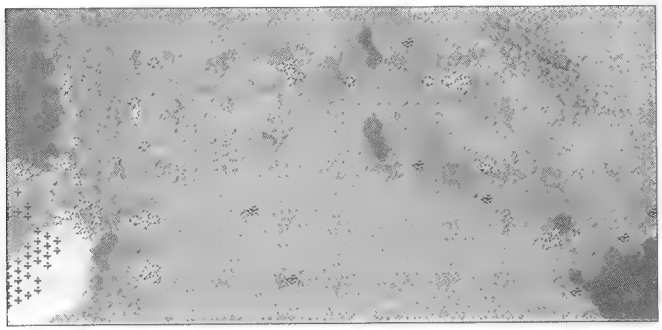
Starting date: September 1, 1941

Number of turns: 26 Weather zone: Southern Europe/North Africa

Days per turn: 3 Campaign game maximum core units: 34

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	1.2
Land	1.5	1
Naval	.5	2



Victory Conditions

To obtain a decisive victory, take all your Middle East objectives in 21 turns or fewer. You can still claim a victory if you take all the objectives in 26 turns or fewer.

If you win, you are told:

"Our control of the Middle East will allow us to attack the Caucasus from both west and south."

Or, if you lose:

"Your failure in the Middle East has cost us dearly. British counterattacks have forced us to surrender Egypt."

Axis Strategy

This is a race: Air power plays a big role in reconnaissance, by softening up obstacles and ensuring that your parachute and air-transportable forces can get deep into the enemy's rear area. The biggest risk is always running into enemy air defenses and then getting jumped by their fighters. You've been warned! Furthermore, don't waste your SIGs' ammo, because they are slow to reload. Keep them near the forefront of the advance, and use them when you really need a strong artillery strike against a city.

Your initial organization should start with two battle groups. While the navy and air force win the battle in the Mediterranean, the smaller battle group storms through Haifa up to Beirut. The stronger battle group strikes through Jerusalem and Damascus and then heads on to Baghdad for the final battle. Because the desert routes are narrow and it is difficult to fully deploy, quality counts for more than quantity in this spearhead. You may want to spare some troops to advance directly east across the desert to link up with your paratroops and perhaps pick up a city on the way. Try to secure an airfield in Iraq as early as you can so that you can base your air force there.

Allied Strategy

The Baghdad position, your ultimate stronghold, is well-protected by the Tigris River and flanking deserts—the rest of the Allied army is there only to make sure that the Axis powers get to Baghdad without the four to seven turns they need in order to deploy and take it. So don't rush your entrenched troops forward toward the enemy—dig in and make them dig you out to get past, fortifying Damascus, Anah, and Baghdad for multiple lines of defense after the Axis forces take Jerusalem. Defense in depth is a sound strategy in this scenario, coupled with counterattacks if the Axis forces overextend themselves. If they bypass your cities without adequately screening them, for example, surprise counterattacks to retake lost cities can be successful and can divert a large number of Axis troops.

You may want to ensure that at least part of your air force survives until the enemy is moving on Baghdad, when his planes have to fly back a long way to refuel and you may be able to gain local superiority. The disadvantage is that the Axis air force will have gained significantly more experience than yours while fighting its way across the Middle East. Because the Axis forces need airfields, make sure that yours are guarded against airborne attacks.

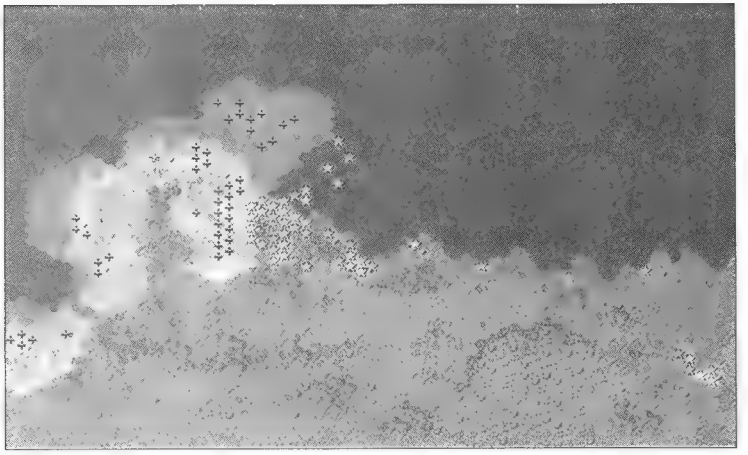
The Middle East Victory Option

After a decisive victory in the Middle East, we have an important strategic decision to make. Strategically, we are in an excellent position on the western front. We now expect to attempt an invasion of England in the summer of 1943 after we have increased the size of your navy and worn down British air power. We are also planning a major offensive against the U.S.S.R. in the Caucasus early this summer. Our control of the Middle East allows us to attack the Caucasus from both west and south. If you choose the former, you proceed to Sealion 43; the latter takes you to the Caucasus scenario in June 1942.

El Alamein

After much ebb and flow, the African front has stabilized at Gazala. It is time for you to seize the initiative and drive the British out of Libya and Egypt. Your goal is to seize Cairo and all other objectives by September 30.

The Strategic Map/Scenario Errata



Starting date: May 26, 1942

Number of turns: 26

Days per turn: 5

Weather zone: Southern Europe/North Africa

Campaign game maximum core units: 36

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	1.5
Land	2	1.2
Naval	.5	2

Victory Conditions

The German forces are victorious if all the objectives are taken in 26 or fewer turns. To win decisively, your forces must take the objectives in 24 or fewer turns.

Axis Strategy

It's a long, long way to Cairo. Press Tobruk while stretching the front to Bir Hacheim in order to force a breakthrough. Send tracked vehicles south of the escarpment across the desert as well as advancing along the coast. Drop off detachments at enemy centers of resistance to keep them from being reinforced, but keep the spearheads moving. After you break through the defile at El Alamein, send your main forces to Cairo down both main roads and a small battle group east to take Alexandria.

Using your air force to protect your ground troops is vital in the desert—especially when they are mounted in trucks. Taking airfields for your air force should be a high priority.

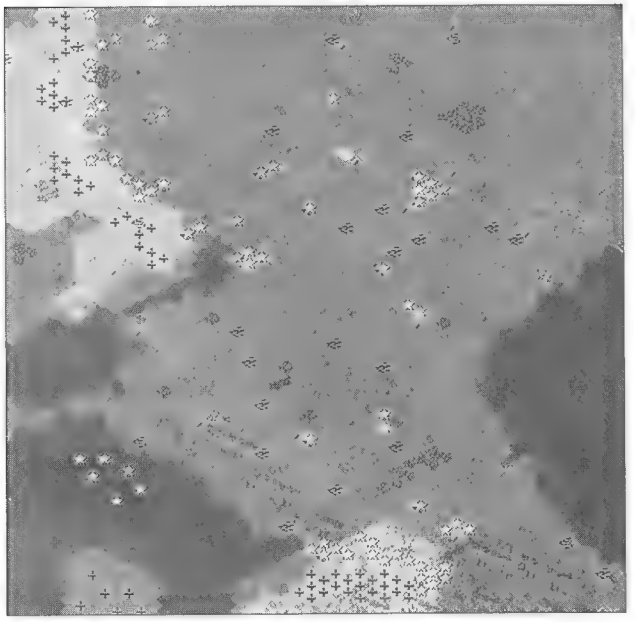
Allied Strategy

Delay at Bir Hacheim and Tobruk as long as you can, and then retreat step by step, making the Axis pay for each step. Make your stand between the Qattara Depression and El Alamein—make sure to have infantry and anti-tank units begin digging in early on so that they are ready when the Axis spearheads arrive. Use your air force to pound the enemy in the desert, particularly if they try to circle around the El Alamein position to the south.

Caucasus

Thanks in large part to your past success in Africa, you now have an opportunity to deal the Russians a critical blow. If you are able to secure your objectives in the Caucasus soon enough, you then are ready for the assault on Moscow. You must complete the upcoming campaign by November 26.

The Strategic Map/Scenario Errata



Starting date: June 30, 1942

Number of turns: 30

Days per turn: 5

Weather zone: Eastern Europe

Campaign game maximum core units: 38

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	.7
Land	2	1.4
Naval	.5	0

Victory Conditions

When you take all your objectives in 18 or fewer turns, the German forces claim a decisive victory. These forces can still be victorious if you claim all the objectives in 30 or fewer turns.

Axis Strategy

Air power is key—use fighters to cut down the enemy air force and tactical bombers to weaken enemy armor in their defensive positions. The battle is divided into northern and southern theaters. Although the terrain is more open in the north, in the south you must make the greatest advances, and taking too long to punch through the mountains can cost you the chance for decisive victory.

In the south, send one battle group past Tbilisi directly on Grozny and another battle group up the road to Mozdok to take Grozny in the rear. After linking up at Grozny, the Caucasus army group can strike through Blagdernoe and Elista to link up with the northern army group at Stalingrad, taking other cities, such as Ilinka, Kotelnikovo, and Jutovo en route.

The northern army group is divided into two battle groups by the Donets River. The battle group north of the Donets should drive on Stalingrad between the Donets and Don Rivers while the southern battle group storms Rostov on the coast and then turns east to Stalingrad.

Allied Strategy

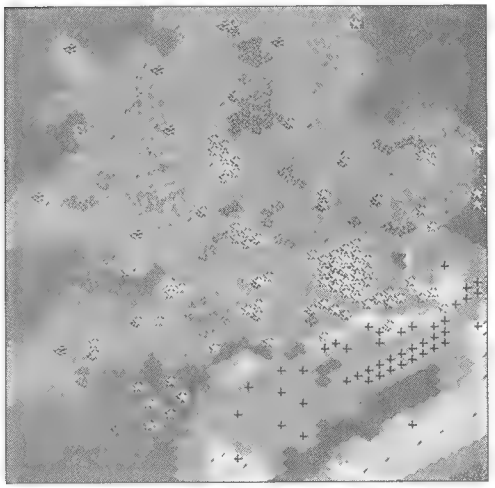
Air defense, artillery, and tanks are your defensive mainstays in this scenario. Conserve your air force for the long haul—working with the help of air defense units, you may be able to pick off damaged Axis bombers. Overall strategy differs between the north and the south. In the open plains of the northern theater, use your cities as defensive bastions that bleed the enemy dry as it advances. In the south, your best defensive position is in the Caucasus mountains, and you have to devote enough reinforcements to the southern forces to ensure that the Germans don't force you back into open country.

Sealion 1943

England must be knocked out of the war. Your mission is to take the objectives in southern England to force the English to surrender. We believe that the

Americans are preparing to send a large part of their Pacific fleet to reinforce England sometime within the next month, because we have been unable to keep secret the preparations for the upcoming invasion. It is imperative that you complete your mission by July 14.

The Strategic Map/Scenario Errata



Starting date: June 15, 1943
Number of turns: 15
Days per turn: 2
Weather zone: Northern Europe
Campaign game maximum core units: 42

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2.2	1.5
Land	2.2	1.2
Naval	.5	2

Victory Conditions

If you use 13 or fewer turns to obtain all your objectives, you have a decisive victory. You are still victorious when you take 15 or fewer turns. The following represents the communiqués you receive for decisive and marginal victories, respectively:

> "Congratulations on your truly impressive victory in England. Now that England is out of the war, it is time for you to deal with the Russians."
>
> Or
>
> "Although your initial objectives in Operation Sealion were taken, the American counterattack forced our follow-up forces to retreat from England before we could force a British surrender. While you were in England keeping the Western Allies busy, progress has been good on the eastern front."

In either case, the next scenario is Moscow 43, but it is much easier to tackle that one without having to worry about the western front anymore.

> *"We are waiting for the long-promised invasion. So are the fishes."*
> —Winston Churchill, radio broadcast to France, October 21, 1940

Axis Strategy

See the "Sealion" section, earlier in this chapter.

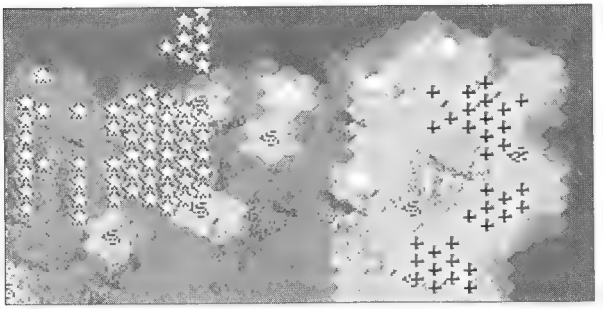
Allied Strategy

See the "Sealion" section, earlier in this chapter.

Torch

The Allies are beginning Operation Torch, their invasion of northwest Africa. You must defend Tunisia so that we can maintain a position in North Africa. If you can hold Tunis and at least five other objectives in northwest Africa, we can free you and your forces for a possible attack on the eastern front.

The Strategic Map/Scenario Errata



Starting date: November 8, 1942

Number of turns: 24

Days per turn: 6

Weather zone: Southern Europe/North Africa

Campaign game maximum core units: 39

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	2
Land	2.5	.5
Naval	.5	2.5

Victory Conditions

It's slightly more difficult to claim a victory in Torch. You must obtain all the objectives or Tunis and at least five other objectives must be held until the end of the game in order to have a decisive victory. If you hold Tunis and at least two other objectives at the end of the game, you claim a minor victory.

You are given one of the following messages at the end of this scenario:

"Your successful delaying action in Africa was helpful in slowing the Allies. Unfortunately, we were unable to stop their final reoccupation of Africa."

Or

"We were very disappointed that you were unable to stem the Allied advance in Africa. You must secure a victory in your next campaign or your prestige will plummet."

Axis Strategy

The Vichy French in North Africa have surrendered to the Allies, and both sides are racing to pick up the pieces. The Americans are mostly inexperienced, but they have good equipment and outnumber you, especially in the air. Due to air inferiority, you must coordinate your air units carefully and use them selectively when it counts.

The obvious strategy is to use detachments to delay the Americans while you take up a defensive position on the east bank of the Medjerda River with air defense and artillery support. Your armored forces can concentrate farther south around Gafsa to strike west and then north through the valleys east of Biskra. Timed correctly, this force can hit the Allied support units in the flank, cause serious damage, and derail the Allied offensive along the Medjerda.

Allied Strategy

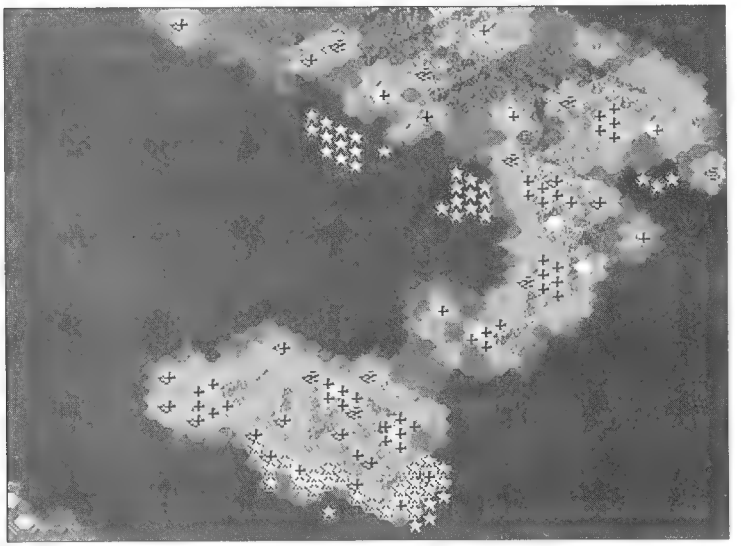
With the advantages of air and naval superiority, you can afford straightforward hammering against the Axis defenses to bloody your troops and eventu-

ally drive the Axis forces into the sea. The Afrika Korps units are veterans, however, and the Tigers they field here are extremely tough.

Husky

We now expect the Americans and British to launch an attack on Sicily and Southern Italy. You must put up, at minimum, a stubborn defense and hold at least two objectives until after October 1. Ideally, you should strive to hold at least five objectives until after October 1. Good luck—you will need it.

The Strategic Map/Scenario Errata



Starting date: July 10, 1943

Number of turns: 21

Days per turn: 4

Weather zone: Southern Europe

Campaign game maximum core units: 41

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	2
Land	2.2	1
Naval	.5	2.5

Victory Conditions

When you either take all the objectives or hold at least five of the objectives at the end of the game, you have a decisive victory in Husky. You can still claim victory if you hold at least two objectives at the end of the game.

After the dust settles, you receive one of the following dispatches:

"To date you have done a good job defending Southern Italy. Unfortunately, the Allies have been able to fight their way onto the Italian mainland."

Or

"To date you have not done a good job defending Southern Italy. We cannot afford another defeat, and neither can you."

Axis Strategy

The Allies are ashore in Sicily, and Italy is next. Husky—the invasion of Sicily and Italy by the Allies—is the first of the Western fight-or-flight battles: Your main option is whether to fight to hold your initial position or fall back to a more defensible location.

This series of battles is about holding on grimly against an enemy that, at least in quantity if not in quality, has an advantage on land, at sea, and in the air. In Husky, the flight option is to pull back to Italy and try to set up a tough defensive line, preferably based on the inland cities out of the reach of naval bombardment, such as Foggia and Totenza, with infantry and anti-tank units entrenched and heavily bolstered by air defense units and artillery.

The fight option is to hold both Sicily and Italy (hard to do) or defend one and give up the other—pulling out of Sicily is the usual choice. Rather than flee from enemy landings, you try to drive them into the sea and keep hammering them with your limited but concentrated strength.

Either way, you have to counter the overwhelming Allied air threat, and you have to get more heavy tanks to help pick off weak Allied units.

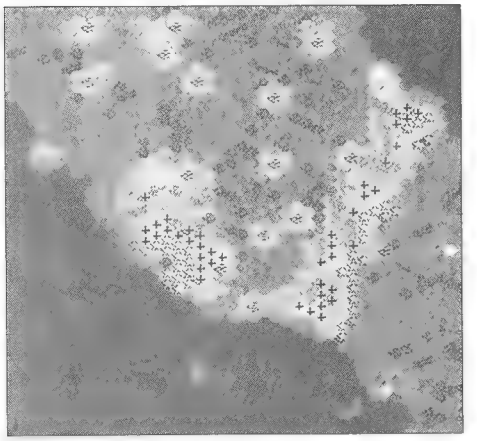
Allied Strategy

This scenario is an exercise in overwhelming the enemy by multiple amphibious invasions. Although your troops are less experienced, in all other respects you have advantages you can turn into victory objectives taken. You can land anywhere you please on the Sicilian and Italian coasts and support your forces with air and naval bombardment. But don't delay in Sicily before getting serious about conquering Italy, and don't ignore the Axis air force.

Anzio

The Americans have been preparing to launch a new offensive aimed at taking Rome. You must hold Rome and at least two other objectives until at least May 8.

The Strategic Map/Scenario Errata



Starting date: January 22, 1944

Number of turns: 14

Days per turn: 8

Weather zone: Southern Europe

Campaign game maximum core units: 44

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	2.5
Land	2	2
Naval	.5	2.5

Victory Conditions

For your German forces to be victorious, you must hold Rome and at least two other objectives at the end of the game. For a decisive win, you must take all the objectives or have all your original objectives and Anzio held at the end of the game.

Unless you can register a decisive victory in this scenario, one of the following telegraphs appears, to announce the end of your military career:

> "Your inability to stem the Allied advance in Italy has cost us dearly, as it now appears that all of Italy will fall to the Allies this summer. We have decided that your services are no longer required."

Or

> "We have decided to allow you to retire from service with some honor."

Axis Strategy

Although you're still at an overall disadvantage, at Anzio, south of Rome, you can strike back at the Allies by driving their landing forces back into the sea. Because the Allied battleships will soon open fire, attack immediately while you can. Except perhaps at Lanciano, nowhere else on the Gustav Line, from Formia to Lanciano, can you attack.

Guard Rome and Pescara carefully—with Anzio taken, you may be able to hold off the Allied onslaught. Consider placing garrisons in rear area cities to deal with infiltrators or paratroops. Use your air power sparingly so that you will have it available as a threat to the Allied bombers.

Allied Strategy

Use your combination of strength and mobility to press the enemy and push through gaps. Using naval power, you can unhinge the line at Formia, roll it up to Cassino, and then march on Rome. Meanwhile, your battleships keep the Axis at bay in the Anzio area.

The Beginning of the End Option

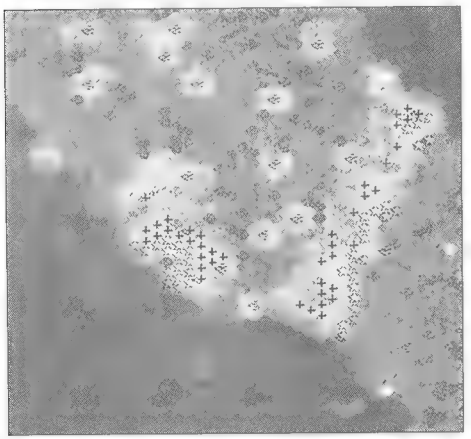
In the Summer of 1944 scenario, you get a choice of holding off either the Allied landings in France or the Russian steamroller.

> "It is now time for you to either fight off the Allied invasion of France, or the upcoming Russian summer offensive. Both jobs are extremely difficult, but you have proven yourself worthy of either task."

Going west takes you to the D-Day scenario. Moving east means fighting the Russians in Byelorussia.

D-Day

Operation Overlord is the largest amphibious invasion ever seen by man, and you must stop it. You should strive to pin the Allies in Normandy by holding St. Lo, Caen, and Cherbourg until after July 5, when we can hopefully move sufficient troops from the eastern front to throw the Allies back into the sea. At a minimum, hold at least two of these three key towns.



The Strategic Map/Scenario Errata

Starting date: June 6, 1944

Number of turns: 15

Days per turn: 2

Weather zone: Northern Europe

Campaign game maximum core units: 45

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.8	3
Land	2	1
Naval	.5	3

Victory Conditions

Claim all your objectives or hold St. Lo, Caen, and Cherborrg at the end of the game for a decisive win. You can claim a minor victory by holding two of the following three cities at the end of the game: St. Lo, Caen, and Cherbourg.

Axis Strategy

This is the second Western fight-or-flight scenario—you must defend three French cities for 15 turns while trying to keep your units alive. Your good-quality reserves are well behind the line, subject to Allied air attack as they move up toward the coast. It is unlikely that you can stop the enemy on the beaches or drive him back into the sea—you may have a better chance of winning if you concentrate heavy combined arms defenses around the victory objectives you are supposed to defend, or at least two of the three. Note that you can disband bypassed fortifications to allow you to build new units.

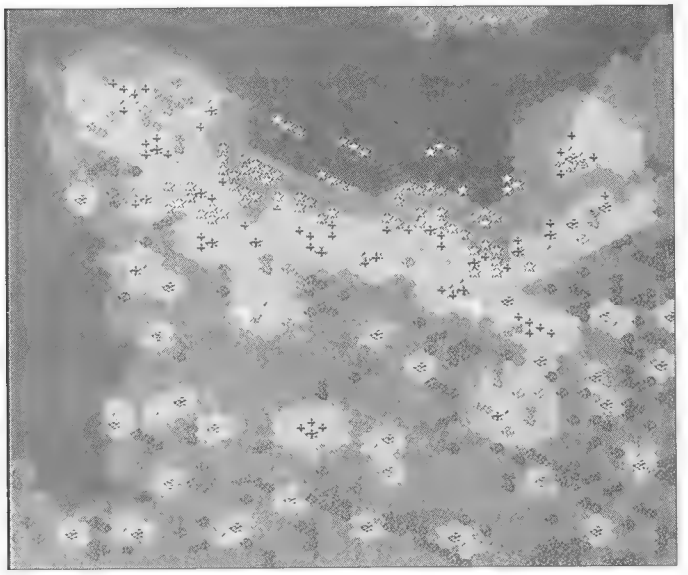
Allied Strategy

By air, land, and sea, your overwhelming might has descended on the Norman coast. Avoid any serious mistakes and you should easily win the battle.

Anvil

Again we ask you to repel an invasion of France, but this time the invasion is coming in southern France. Your job is to hold on to the key port of Marseilles and at least two other objectives until after August 28, when we hope to move additional troops to support you. If you fail in this mission, you must hold at least two objectives until after August 28.

The Strategic Map/Scenario Errata



Starting date: August 6, 1944

Number of turns: 23

Days per turn: 1

Weather zone: Northern Europe

Campaign game maximum core units: 46

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.6	3
Land	1.8	2
Naval	.5	3

Victory Conditions

You must hold Marseilles and at least two other objectives at the end of the game or take all your objectives in Anvil to claim a decisive victory. For a minor victory, you must hold at least two of your objectives until the end of the game.

Axis Strategy

Heavy losses are to be expected as your forces are put to the test, so save prestige for replacements. Rugged terrain and experienced units are your only assets and your only hope of staying alive against the Franco-American onslaught; your safest strategic goal is a marginal victory based on holding Grenoble and St. Vallier at the end of the battle. Don't let your units stand and die on the coast—get them into successive defense lines based on the cities and rivers in the hills and mountains. Holding on to airfields early on, however, helps you by forcing the Allied air units to return to their distant bases to refuel.

Allied Strategy

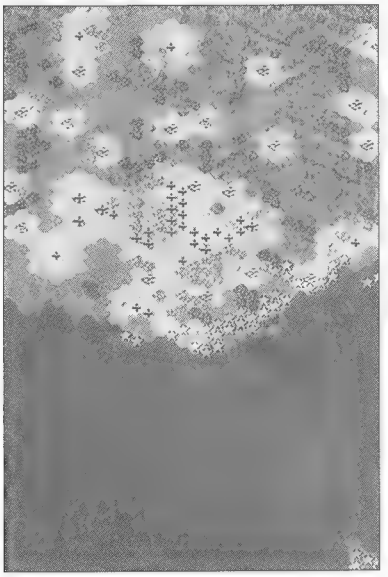
A great deal of tough terrain and a few tough Germans await you in southern France. Although the ground is ideal for defense, recon and ground attacks by your air force help neutralize this defensive advantage. Securing an airfield on the mainland is a high priority to avoid having to fly south to refuel.

There are really only two main routes north: one east of the Rhone and another through Sisteron, where a number of routes from the coast converge. The mountainous trails farther east can easily be blocked and support an advance on only a one-unit frontage. Move quickly because Grenoble and St. Vallier are each tough defensive positions to be cracked.

Ardennes

You are the one to lead our upcoming counterattack in the Ardennes. Wacht am Rhein is your best chance to seize the initiative and force the Western Allies to make peace with us. It is essential that you capture all your objectives by December 31 or else the Allies will be able to move overwhelming forces into the Ardennes.

The Strategic Map/Scenario Errata



Starting date: December 16, 1944

Number of turns: 32

Days per turn: 1/2

Weather zone: Northern Europe

Campaign game maximum core units: 48

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.4	3
Land	1.6	2
Naval	.5	3

Victory Conditions

If you can pull off a much-needed decisive success here, the war is over:

> "Combined with your earlier success on the eastern front, your victory forced the Allies to accept favorable peace terms. You will be remembered as one of history's great generals."

You can celebrate that victory by holding all the objectives except Brussels at the end of the game. You can claim a decisive victory in Ardennes by taking all your objectives.

Axis Strategy

Bad weather is a key factor but a mixed blessing in this famous battle. It freezes rivers and protects you from Allied air power, but your key spearhead units consume fuel at a disturbingly high rate. The terrain is rugged but has numerous roads, an interesting challenge for both sides. You have to strike quickly before Allied reinforcements can intervene, so force breakthroughs and let the rear-echelon units mop up isolated enemy left behind you as you advance.

The easiest route in the north is through Malmedy and Spa, but this leaves a dangerously large Allied force on your northern flank. The main battle group must fight through and take Liege before it can be reinforced; then sweep down on Namur from the north before linking up with the southern battle group and continuing around the Dyle River through Nivelles to Brussels. The southern battle group must take Bastogne and Rochefort before joining up for the final push from Namur.

Allied Strategy

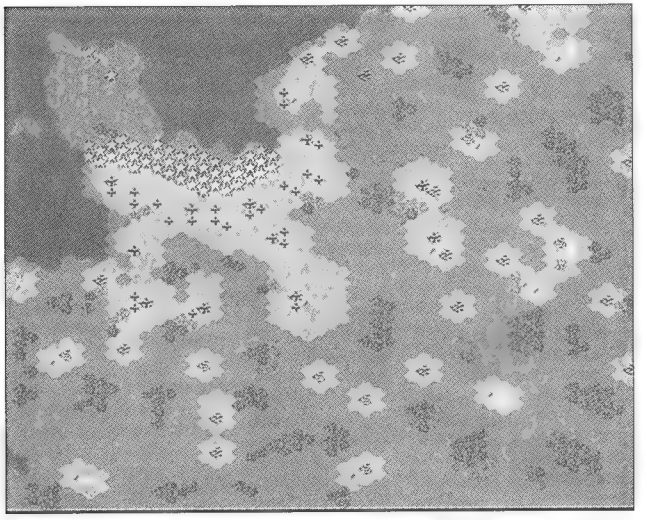
Bad weather, bad terrain, and good defensive tactics fatally slow the German advance through the Ardennes and allow reinforcements to swing the tide of battle. Smashing Axis air power early on is a priority, so you can attack their ground units on the march with impunity.

Delay the enemy at Bastogne and in the northern towns as much as possible while using your remaining front-line troops to harass the flank and rear of the advancing Germans. This strategy may give you the time you need to prepare an appropriate reception for the enemy at Liege and Rochefort.

Cobra

The Allies have now built up their forces and are about to unleash Operation Cobra, their attempt to break out of the Norman hedgerows once and for all. Your mission is to keep the Allies from pushing far into France until after August 18.

The Strategic Map/Scenario Errata



Starting date: July 25, 1944

Number of turns: 25

Days per turn: 1

Weather zone: Northern Europe

Campaign game maximum core units: 46

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.6	3
Land	1.8	1.5
Naval	.5	3

Victory Conditions

Hold three of the following cities at the end of the game to claim a minor victory: Paris, Orleans, Nantes, and Amiens. You can decisively win by taking all the objectives or by holding Paris, Orleans, Nantes, and Amiens at the end of the game.

Axis Strategy

The Allies have to break out and race across France to their objectives, and you have to stop or delay them despite serious inferiority across the board. An overall offensive must be ruled out—your only good attacks are against unwary mounted infantry, artillery, and the like as they spread out in their advance across France. Even holding the line doesn't work for long. A better course is to pull back to fortify and entrench in your objectives as strongly as you can and trade space for what little time the Allies let you have. While transiting to your objectives, don't expose mounted ground units to enemy air attack. Good luck!

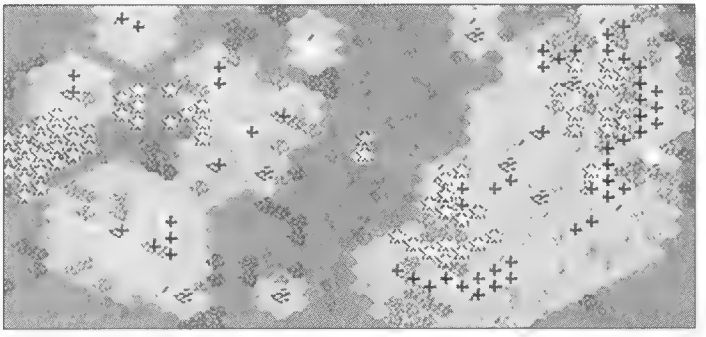
Allied Strategy

Despite your superior strength, you can't ignore the time factor. You have to explode across France in several directions to take all the victory objectives you need. One battle group moves south to storm Nantes, another crosses the Seine and moves to Amiens, and the third strikes southeast to Paris and Orleans. Your first wave should ignore isolated Axis infantry not directly in their path and leave them for the second-line units to mop up.

Market-Garden

Your troops, now located in the Arnhem sector of Holland, are fighting off a massive Allied attack aimed at securing a path across the many rivers and canals leading to Arnhem. It is essential that you prevent the Allies from taking Nijmegan while you retake Arnhem and hold both of them until after September 25. At a minimum, you must retake Arnhem and hold it until after September 25. If the Allies hold on to Arnhem, they can force their way into Germany this year.

The Strategic Map/Scenario Errata



Starting date: September 18, 1944

Number of turns: 16

Days per turn: 1/2

Weather zone: Northern Europe

Campaign game maximum core units: 47

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.4	3
Land	1.6	2
Naval	.5	3

Victory Conditions

To claim a minor victory, you must hold Arnhem until the end of the game. For a decisive victory, you must either take all your objectives or hold Nijmegan and Arnhem until the end of the game.

Axis Strategy

Because Arnhem is the most important objective on the map, smashing the Allied defensive perimeter there is your number-one priority. Try to close in on Oosterbeek quickly to keep the Allies from raising new units there and drive the paratroopers out of Arnhem.

You have to pick an overall defense line, preferably securely behind a river—it is unlikely that you will be able to drive the Allies around Nijmegen back across the Meuse, but the Waal is a practical defense line and the Rhine serves as a last resort. Your forces in the west have to slow the Allied advance sufficiently for you to consolidate the Arnhem area and relieve your garrison in Nijmegen. The small force at Gembert is likely to be engulfed if it directly challenges the enemy, but it may be able to worry the enemy's flank and draw off some of his forces. Alternatively, it can move back quickly to help in the attack on the Allies around Nijmegen. Your battle group at Nijmegen needs armor to help defeat the paratroops and artillery, so raising a unit in the area may be necessary.

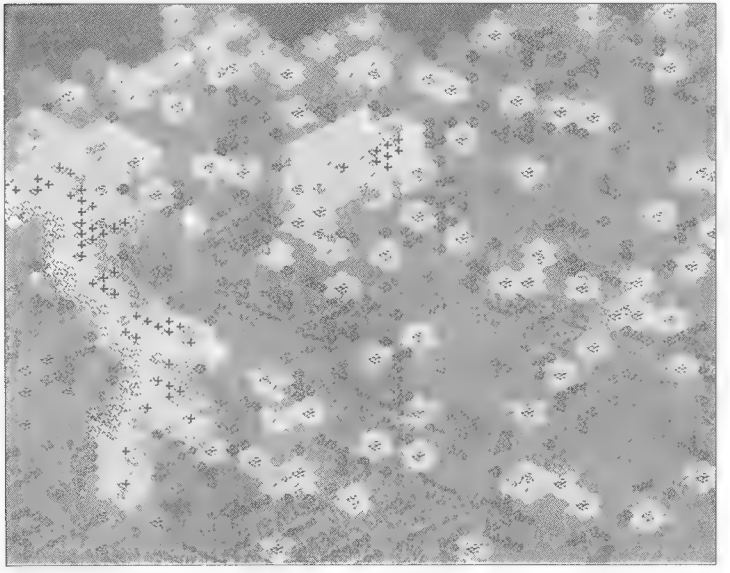
Your small air force must be nimble enough to avoid getting wiped out—air defense units are the key to deflecting some of that Allied air power from vulnerable targets, but be aware that the Allied aircraft are increasingly resistant to damage.

Allied Strategy

With air power and reinforcements of armor, anti-tank guns, artillery, and luck, you may be able to hold the Arnhem-Oosterbeek perimeter and permanently tie up the Germans on the east bank of the Rhine. Taking and holding Nijmegen is easier because the force balance is more favorable, but you need the main army to come up quickly to fully secure the Nijmegen area and push on to Arnhem. Don't let too much ground strength be diverted against weakly defended secondary objectives. Your massive air force should be able to take care of any particularly strong resistance in the western part of the battlefield.

Berlin—Western Invasion

Although you have been able to knock the Russians out of this war, the war in the west has not gone well. The Western Allies have proven to be unstoppable and are now advancing over German soil. You must keep them out of central Germany by holding Berlin and at least five other objectives until after May 8. If you fail in this mission, you must at least hold Berlin until after May 8.



The Strategic Map/Scenario Errata

Starting date: April 1, 1945

Number of turns: 13

Days per turn: 3

Weather zone: Northern Europe

Campaign game maximum core units: 50

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.4	3
Land	1.6	2
Naval	.5	3

Victory Conditions

For a decisive German victory, you must hold Berlin and five other objectives. To claim a minor victory, you must hold Berlin until the end of the game.

Axis Strategy

To hold five objectives and Berlin at the battle's end, you have to make a stand at the Rhine while the forces near Berlin move up as reinforcements. You need strong artillery, air and air defense cover to counter the Allied onslaught. Use your armor for local counterattacks to cripple the vulnerable enemy infantry, which will force the Allies to dig you out of your defenses.

Although a defensive strategy with purely local counterattacks can win the battle, you may also try strategic counteroffensives to keep the Allies off balance and win valuable time. Your heavy tanks remain powerful units if they're adequately protected from air attack. Armored thrusts south from Holland and across the Rhine near Karlsruhe and Stuttgart when the enemy weakens his forces in those areas can draw off enemy forces from the crucial

central sector of the Rhine for several turns. You may even be able to wreak havoc among the artillery in the enemy rear areas or seize an objective.

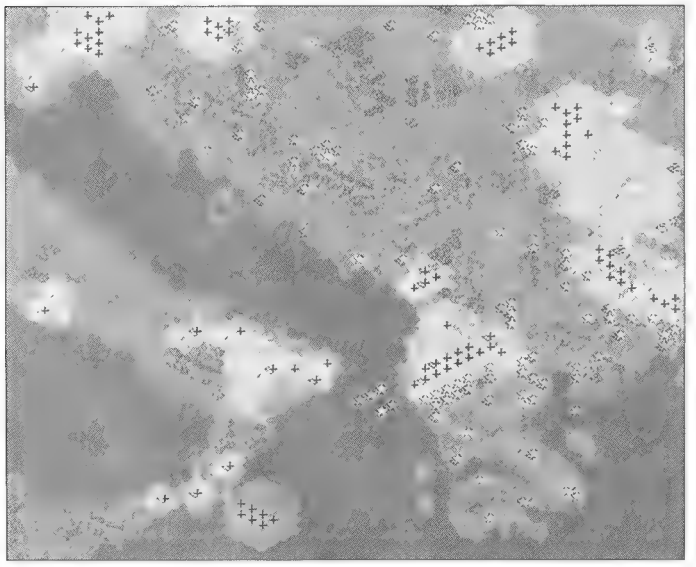
Allied Strategy

Turn the tables on the Germans by applying your own brand of blitzkrieg tactics. You can't bypass all his defenses en masse, but you can conduct limited encirclements to minimize the time necessary to drive on Berlin.

The Balkans

Your next mission is to defeat the Yugoslav and Greek armies and force the British off the European mainland for the last time. You should capture your objectives by April 30 so that your upcoming invasion of the U.S.S.R. is not delayed. If you can complete your mission earlier, we may give you the coveted command of our planned airborne assault on Crete.

The Strategic Map/Scenario Errata



Starting date: April 6, 1941

Number of turns: 25

Days per turn: 1

Weather zone: Southern Europe

Campaign game maximum core units: 30

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.7	1.2
Land	1.3	1
Naval	.5	2

Victory Conditions

You must take 22 or fewer turns to claim a decisive victory. For a minor victory, you must take 25 or fewer turns to obtain all your objectives.

This is a scenario you want to win. If you do, you receive this message from the High Command:

"Your assault on Yugoslavia and Greece was blitzkrieg in its most powerful sense. Due to your spectacular success, we have decided to appoint you to command a very special operation."

Or, if you were unsuccessful:

"We were very disappointed with your performance in Yugoslavia and Greece. It is time for you to prove that you are worthy to be a Panzer General."

Axis Strategy

You have numerous Allied Italian and Bulgarian units available to you, but the Germans still have to do the toughest fighting. Yugoslavian resistance will be crushed by an advance into Yugoslavia from all sides, but, unless you switch

forces toward Greece as early as practicable and make the necessary air and naval support available, you may find yourself unable to secure Greece by your deadline. To avoid this situation, the German troops in the eastern battle groups should shift toward Greece as early as possible, letting your Bulgarian troops mop up resistance farther north. You may even initially only screen Kragujevac to allow the troops nearby to head directly for the ultimately decisive theater.

Allied Strategy

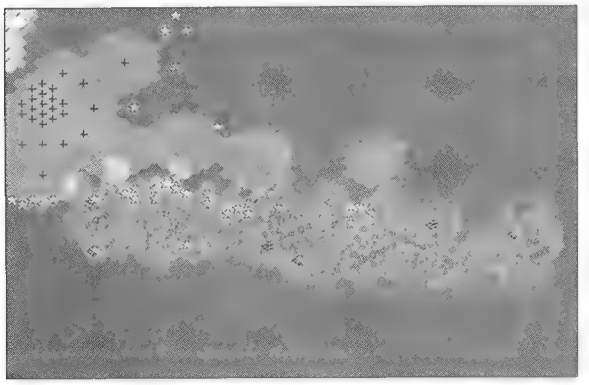
Heavily reinforce all objective cities. You have serious air inferiority and must take care of your air force if you want planes available when you need them to defend Greece.

To the extent you have the strength to score "kills," pick on the Italians, especially early on at the Albanian front and the Bulgarians when they arrive at your fortifications near Thessaloniki. Use your Matilda IIs and air defense units wisely, and note that Yugoslav infantry are inexpensive and very useful for harassing Axis rear areas so long as they survive.

Crete

The assault on Crete is the largest airborne drop ever attempted in wartime. It is up to you to command the airborne forces and capture the airfields on Crete so that you can then transport your main forces by both sea and air to crush the Allied forces on the island. You must ultimately secure all the objectives on Crete by June 1.

The Strategic Map/Scenario Errata



Starting date: May 30, 1941

Number of turns: 13

Days per turn: 1

Weather zone: Southern Europe

Campaign game maximum core units: 31

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	1.2
Land	1.5	1
Naval	.5	2

Victory Conditions

Crete is German occupied if you take all the objectives in 11 turns or fewer. You can claim a minor victory of Crete by claiming all your objectives in 13 or fewer turns.

Expect one of the following transmissions when the last shell falls:

"Your victory on Crete will go down in history as one of the most brilliant invasions of all time. Your reputation within the army is at least the equal of any other general, and is much better than most."

Or, for a minor victory:

"Your victory on Crete adds yet another successful campaign to your resume. Your next assignment is one of the most critical of your career."

Or, if you lose:

"We were very disappointed that you were unable to complete your mission on Crete successfully. We are going to give you another chance to prove yourself to us, but your resources will be limited as your performance in battle has been inconsistent as of late."

Axis Strategy

Your first priority is to get the paratroops safely landed on the island and to screen your naval transports from hostile warships. Although sometimes the Axis fleet can win the naval battle, particularly if air power is diverted to help it, it is more likely that the result is a draw or that the fleet will sacrifice itself to get the ground troops ashore on Crete. Although spreading out the landings is desirable, it may not be practical or safe if the Allied naval threat is severe. The paratroops usually land and attack isolated cities in groups supported by air power while the regular army lands and fights its way east from the west end of the island. Speed is important.

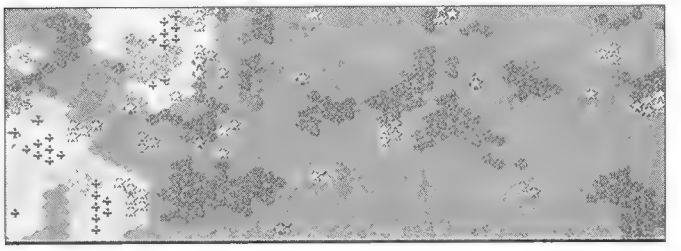
Allied Strategy

Sinking naval transport is your first priority; your second is to sink the Axis fleet so that it is you rather than they who can provide shore bombardment. Build up your air force to keep the German air units occupied and prevent them from influencing the land battle. When the Axis troops land, see whether you can hit them effectively on the beaches, but don't sacrifice high entrenchment levels for this purpose.

Barbarossa

It is time for the invasion of Russia. Your army is the main spearhead in Army Group Center's initial advance into Russia. You must take all the objectives, including the main objective of Smolensk, by August 6. An earlier completion of your mission could allow us to begin the attack on Moscow before the rain and winter snow can come to the Russians' defense.

The Strategic Map/Scenario Errata



Starting date:
June 22, 1941

Number of turns: 23

Days per turn: 2

Weather zone:
Eastern Europe

Campaign game maximum core units: 32

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	0
Land	1.7	0
Naval	.5	0

Victory Conditions

When all objectives are taken in 18 or fewer turns, your German forces can claim a decisive victory. Your forces can still claim a minor victory by taking all the objectives in 23 or fewer turns.

This stern message follows failure at Barbarossa:

> "Your total inability to take objectives in Russia has been a major blow to our war effort. All of our plans have been made useless, and it is now impossible for us to win this war quickly."

Axis Strategy

This is a race to Smolensk, and little time can be wasted. Focus on speed and rely on quality. After you're across the Bug and Narew rivers, move east at full speed. The northern battle group can quickly take Grodno and the airfield but should push on east rather than turn south to help against Volkovysk. It should drive forward to Vilna and then Postavy before joining with the southern battle group to thrust to Smolensk.

The southern battle group is large, and it has more work to do. The front-line Soviet units must be gotten rid of, but keep in mind the need to push forward rather than chase after crippled enemy units. The first big battle should be at Volkovysk and include Soviet armor reinforcements—some of their tanks are powerful and should be weakened by air strikes before you venture to attack them with your armor. After taking Volkovysk, the southern battle group pushes on to Minsk, letting rear-echelon units clean up around Baranovichi. The attack on Minsk should not delay the continuing march on Smolensk, which develops into a joint attack by both battle groups between the Dvina and Dniepr rivers.

Allied Strategy

Don't try to hold at the initial lines for long—fall back to the bad terrain west of Vilna in the north and west of Volkovysk in the south. Save your mobile units by pulling them back to the Vilna-Lide-Baranovichi line while fortifying Minsk and Smolensk. Letting your KV-2 dig in between the Dvina and the Dniepr is a good idea, particularly if it is supported with more of a defense line.

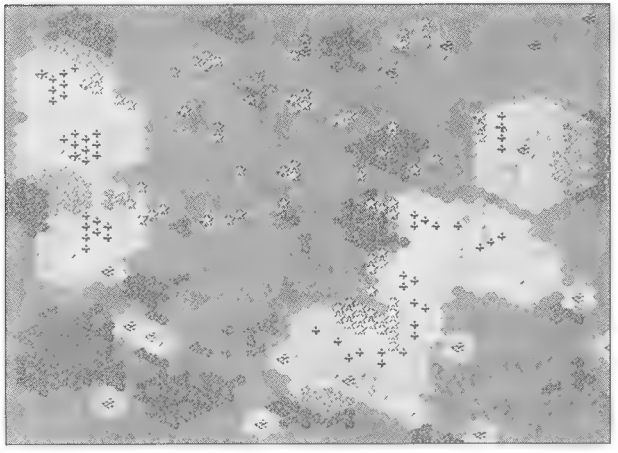
Because of the nature of the terrain, you often have the chance to infiltrate units behind German lines or to launch limited counterattacks from

peripheral cities such as Pinsk. Cavalry is useful in this role. Your air force is outclassed but may be able to overcome the Germans by massing against single air units. Your well-armored heavy tanks by themselves can block or slow the enemy advance for a turn or two, so use them for that purpose, but pull them out before they are destroyed.

Kiev

For weeks, your forces have been stopped by Russian forces near Kiev. It is time for you to surround these forces and destroy them. You are hereby ordered to take your forces and move south toward Kiev and Lokhvitsa. Army Group South units are to drive north and meet your forces, thus encircling the Russian armies. All the objectives in your sector must be taken by September 19 in order for us to redeploy your troops in time for an attack on Moscow this year.

The Strategic Map/Scenario Errata



Starting date: August 23, 1941

Number of turns: 28

Days per turn: 1

Weather zone: Eastern Europe

Campaign game maximum core units: 33

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	.1
Land	2	.2
Naval	.5	0

Victory Conditions

Kiev can be decisively won by taking all the objectives in 20 or fewer turns. For a minor victory, take all the objectives in 28 or fewer turns.

If you fail at Kiev, the patience of the High Command begins to wear thin:

> "Your inability to take the objectives in the Kiev area forced us to call off our planned offensive to capture Moscow in 1941. Your performance was very disappointing, and it is imperative that your leadership improves substantially in the upcoming campaign."

Axis Strategy

Fortunately, you can achieve decisive air superiority in this battle. So soften up the Soviets around Kiev with air power, secure Zhitomir and Boguslav with garrisons, and put pressure on the Red Army massed around Kiev. Update your older equipment in preparation for a tough fight around Kiev. Your northern force (on the left side of this map) should split into two battle groups, one attacking through Konotop to Rumnyr and then fanning out to take Lokhvitsa, Mirgorod, and Priluki while the other moves through Gorodnya to cross the Seym River at Chernigov and take Kiev in the rear.

Your forces in the south (on the right side of the map) should tie down the Soviets facing them and gain what ground they can. The decisive final battle of this encirclement is, as it was historically, around Kiev.

Allied Strategy

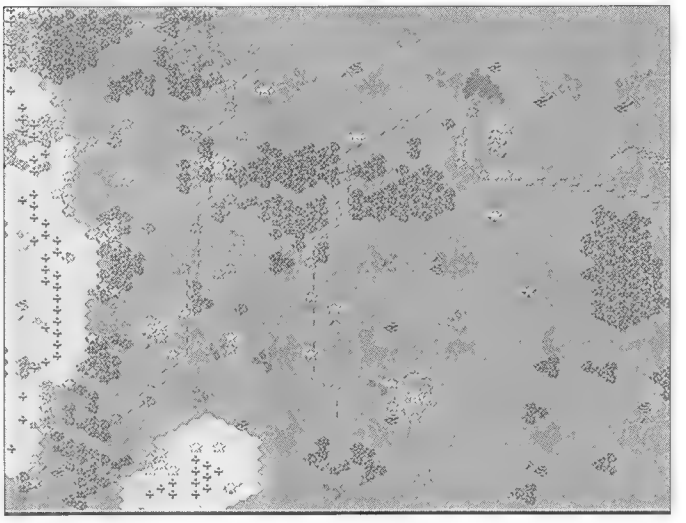
Your forces are widely spread out—although you have to garrison the important cities, you have to concentrate your better combat units at decisive points to contest the Axis assault. The Seym River line near Konotop and near Chernigov is a solid defensive position if it's adequately supported with armor, and you should be able to delay the Axis for some time. In the Kiev area, you can use the strength of your massive army to entrench or launch a counteroffensive against the Germans nearby.

The Axis troops are more experienced than yours—giving your troops some experience before the Axis forces close in from all sides is a good idea. Your air force, unfortunately, is outmatched, and you have to rely on air defenses to provide protection from Axis bombing and strafing.

Moscow 1941

The time has come for the decisive battle of 1941. It is time for you to hurl your forces at the Russian armies defending Moscow. It is imperative that you take Moscow before the combination of winter weather and Russian Siberian reinforcements can steal the initiative from you. If Moscow can be taken and held this winter, the Russians will undoubtedly surrender. You must take your objectives by no later than December 4, but in order to ensure that you can hold Moscow in the face of a determined counterattack, you should strive to take Moscow several weeks earlier.

The Strategic Map/Scenario Errata



Starting date: October 2, 1941

Number of turns: 22

Days per turn: 3

Weather zone: Eastern Europe

Campaign game maximum core units: 34

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2.2	.3
Land	2.2	.6
Naval	.5	0

Note: This is the "historical scenario," if you will, for the German drive on the ancient Russian capitol.

Victory Conditions

To take this Russian city by storm the first time, obtain all your objectives in 18 or fewer turns. When you take your objectives in 22 or fewer turns, you still claim a victory.

One of the following telegrams awaits at the end of this battle:

"Congratulations on your crushing victory over the Russians, a victory even more impressive than your earlier victory in England. The Soviet Union has surrendered!"

Or, the historical result:

"Your successful capture of Moscow turned out to be short-lived, as Russian troops transferred from Siberia were able to push back our weary troops. Russian winter counterattacks have weakened our once-invincible armies."

Or

"Your inability to capture your objectives in and around Moscow has led to disaster as Russian armies, reinforced by troops from Siberia, have wreaked havoc on our once-invincible armies. Russian winter counterattacks have pushed back our weary troops all along the front."

Axis Strategy

There are four possible branches on the campaign flowchart (see the end of this chapter) that lead to the Moscow scenario. This is the first one. These scenarios differ in terms of the extent of the Soviet defenses and Axis deploy-

ments, but the objectives remain consistent. You want to break through enemy defense lines quickly and use these corridors to push forward to your objectives. One approach divides the Axis forces into five battle groups:

In the north, either pushing toward Nelidova or screening off this sector and passing south of the forests to reinforce the attack on Rzhev and then Mozhaysk.

Forces around Smolensk, which clear out the area between the rivers before taking Rzhev and Mozhaysk, supporting the attack on Vyazma, and attacking Moscow from the west.

Troops deployed north of Roslavl, which advance through Vyazma and Obninsk to attack Moscow from the south and southwest, perhaps even moving troops to take Moscow in the rear.

Units south of Roslavl, which take Kirov and then Kaluga and then proceed to support the attack on Tula to the south, Obninsk to the north, or Moscow to the northeast.

The southern battle group, which drives east toward Tula and usually does not have the time to participate in action near Moscow.

Allied Strategy

Most of your units entrenched in fortifications or rugged terrain should stay there—don't move heavily entrenched units without good cause. Retreat only as a result of combat, at which time the unit should move to safety and obtain replacements. Artillery and air defense units at objective cities make the Axis forces assault more cautiously and gain time; patrolling armor should be used to challenge attempts to encircle or bring up infantry to storm Soviet-held cities. Try to make the Axis forces disperse their spearheads to attack your defenses and respond to your counterstrokes. Conserve at least part of your air force to contest the skies over Moscow, and hope for bad weather.

Another Desert or Steppe Question

Again, you may be offered the chance to go for victory in either the desert or on the Russian front.

> "It is time for us to recapture the initiative on both east and west fronts. On the eastern front, we are preparing to assault Sevastopol in the Crimea in order to free our forces for a drive toward Stalingrad and the oil fields of the Caucasus. On the western front, we will soon begin an assault intended to break the British army in North Africa and capture Cairo. You have performed well and we give you the opportunity to lead either of these critical operations."

Naturally, staying in Russia takes you to the Sevastopol scenario. Moving to the desert takes you to El Alamein.

Sevastopol

Sevastopol, home of the Russian Black Sea Fleet, must be taken so that you can begin the upcoming campaign in southern Russia without a major enemy fortress threatening your right flank. It has been under siege and has been pounded by air and artillery for five straight days, but you should expect the entrenchments and forts you attack to be the toughest you have ever faced in the war. You must take Sevastopol and the surrounding objectives by June 23 or else the offensive in the south will be compromised. An earlier completion of your mission only makes it easier to prevail over the Russians.

The Strategic Map/Scenario Errata

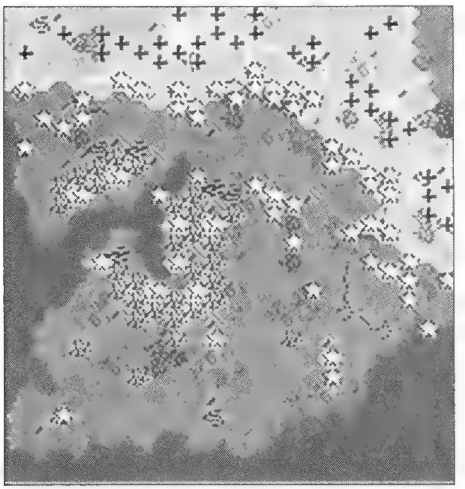
Starting date: June 7, 1942

Number of turns: 17

Days per turn: 1

Weather zone: Eastern Europe

Campaign game maximum core units: 36



Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	.6
Land	2	1.2
Naval	.5	0

Victory Conditions

When you take all your objectives in 14 turns or fewer, you can claim a decisive victory. When you take all your objectives in 17 turns or fewer, you are still victorious.

Axis Strategy

Air power is key in order to hit the Soviet artillery, which otherwise inflicts heavy losses on your infantry as it attacks city and fortification hexes.

The way to deal with fortified lines is to force a single breach several hexes wide, pass your forces through, and force the enemy to retreat or come out to fight you. To shorten your front and capture a vital objective,

taking Bartenevka must be your first objective. It can be done quickly with relatively few units. Crossing the fortified lines and the Alma River is the next goal, which can be done most safely on a broad front between Inkerman and Novyi Shuli. After that is done, the armored forces can swing south around Sevastopol past Nikoaevka, destroying Soviet units in the open ground while the infantry (especially the pionieres) and artillery begin the city fight for Sevastopol on as broad a front as possible in order to speed the victory.

Allied Strategy

Although losing Bartenevka is inevitable if the Axis powers really want to take it, you must yield no ground. Stop the enemy in the river hexes and attack them while they are there with heavy armor. Except for units entrenching in Sevastopol's victory hexes and adjacent hexes, mobilize your rear area troops to come forward and defend the front lines.

Moscow 1942

We are ready for you to lead our forces into Moscow and force the Russians' unconditional surrender. It is essential that you take your objectives by December 31.

The Strategic Map/Scenario Errata

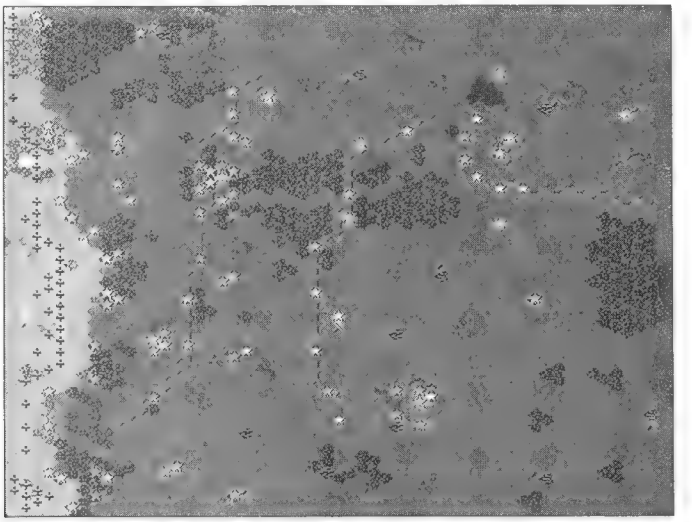
Starting date: October 1, 1942

Number of turns: 23

Days per turn: 4

Weather zone: Eastern Europe

Campaign game maximum core units: 40



Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	.8
Land	2.5	1.5
Naval	.5	0

Note: This scenario would follow an Axis major victory in either the Stalingrad or Caucasus scenarios.

Victory Conditions

To reclaim this city decisively, take all your objectives in 17 or fewer turns; 23 or fewer turns is what it takes to claim a minor victory.

Here's what you can expect in return:

"Congratulations on your crushing victory over the Russians, a victory even more impressive than your earlier victory in England. The Soviet Union has surrendered!"

Or

"We were very disappointed by your inability to capture your objectives in and around Moscow. A great opportunity was lost and you must prove to us that you are still the great commander you once were."

Axis Strategy

See the section "Moscow 1941," earlier in this chapter.

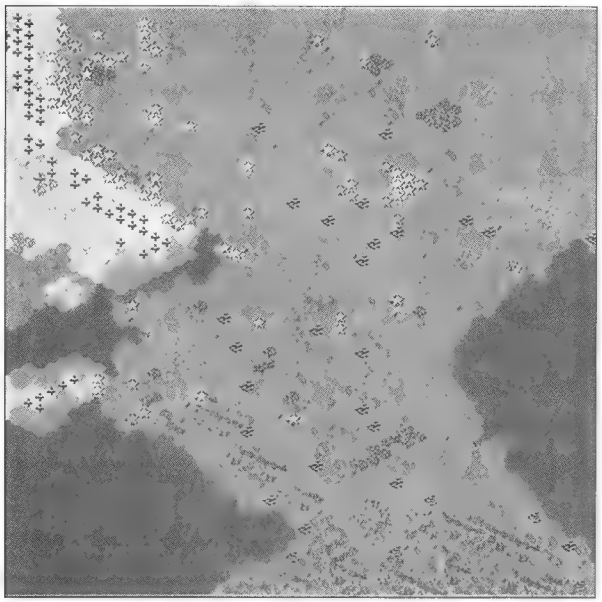
Allied Strategy

See the section "Moscow 1941," earlier in this chapter.

Stalingrad

You must encircle the defenders of this ancient city, besiege them, and crush beneath the treads of your tanks all who oppose you.

The Strategic Map/Scenario Errata



Starting date: June 25, 1942

Number of turns: 31

Days per turn: 5

Weather zone: Eastern Europe

Campaign game maximum core units: 38

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	.7
Land	2.1	1.4
Naval	.5	0

Victory Conditions

A decisive victory is won by taking all your objectives in 18 or fewer turns. Your forces can still claim a win by taking all your objectives in 31 or fewer turns.

If you can claim only a minor victory, you are forced to live with the historical outcome:

> "Although you were able to capture Stalingrad, the Soviet winter offensives have forced us back along the entire front."

Axis Strategy

Your strategy is three pincers converging on Stalingrad. The first battle group, north of the Donets, can capture Rossosh and Voronezh and then drive along the Don to Stalingrad. The second battle group, immediately south of the Donets, should attack toward Millerovo and then Stalingrad. The third battle group, consisting of the more southerly units, should converge on Rostov and then storm up the Don to Stalingrad. Air superiority, as always, is important to protect your own forces and soften up Soviet entrenchments.

Allied Strategy

Make the Axis forces pay for the ground they take by focusing on garrisoning your cities with strong defenses, including artillery and air defenses and tanks posted nearby to counterattack vulnerable enemy units.

The Sicily or Russia Option

As 1943 emerges, you are again offered an opportunity to switch fronts.

> "Disappointment in our inability to deliver a knockout blow to Russia in 1942 has been equaled by the inability of our forces to keep the Western Allies from gradually forcing us out of North Africa. We intend to begin an offensive in the area, which if successful may ultimately lead us to the possibility of defeating the Russians once and for all. However, we expect the Allies to invade Sicily and Italy as soon as they force us out of Africa, and a successful defense of the continent may help us free the necessary forces to defeat Russia later this year. Your skills can be used in only one of these two areas. We leave it to you to decide where you wish to go."

If you stay and face the Russians, your next scenario is Kharkov. Meeting the Western Allies takes you to counter their Operation Husky.

Kharkov

It is imperative that you regain the initiative by launching a counterattack to retake Kharkov, a city recently taken by advancing Russian armies. If you are able to retake Kharkov and all other objectives by March 14, you should be in a position to launch a major offensive aimed at Kursk.

The Strategic Map/Scenario Errata

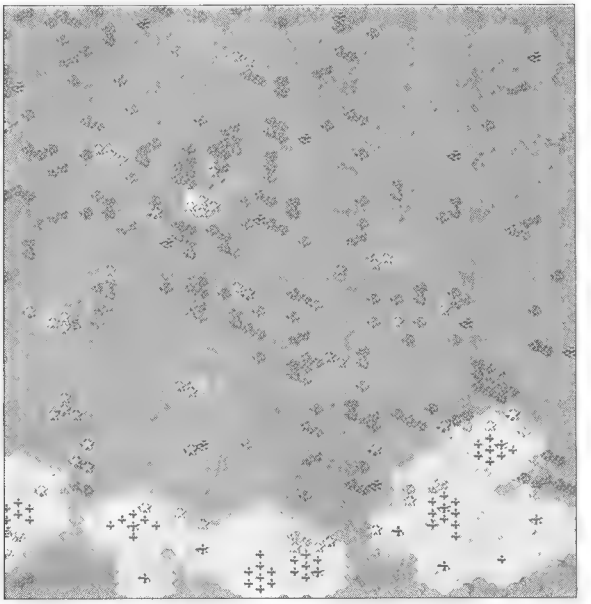
Starting date: February 21, 1943

Number of turns: 22

Days per turn: 1

Weather zone: Eastern Europe

Campaign game maximum core units: 42



Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	1
Land	2.3	1.6
Naval	.5	0

Victory Conditions

All objectives must be taken in 22 or fewer turns for the German forces to celebrate. For a decisive victory, take all the objectives in 18 or fewer turns.

The following three messages represent decisive victory, minor victory, and loss, respectively:

> "Your victory at Kharkov was so quick and decisive that the Soviet forces became hopelessly disorganized. We have been able to keep them on the run ever since."

Or

"Your victory at Kharkov has allowed us to regain the initiative. We must continue to press our attacks against the Russians."

Or

"Your leadership proved weak and uninspiring at Kharkov, and we were unable to regain the initiative. Another year of senseless fighting in Russia has come and gone."

Axis Strategy

This is a highly fluid battle in its early stages as your counteroffensive gains as much ground as possible before the Soviets can consolidate. You have to hurry to recapture Kharkov and especially Belgorod from the enemy. Strategic plans can differ. According to one plan, the westernmost battle group advances on the axis Pereshchepino-Krasnograd-Lyubotin and ultimately attacks Kharkov from the west and northwest; the battle group at Pavlograd and the one at Krasnoarmeyskoye converge on Krasnopavlovka and then drive up to Kharkov from the south; the fourth battle group moves through Izyum to attack Kharkov from the southeast; and the fifth battle group drives through Kupyansk to Belgorod, which may already have been secured by parachutists taking advantage of bad weather to escape detection by Soviet aircraft.

Allied Strategy

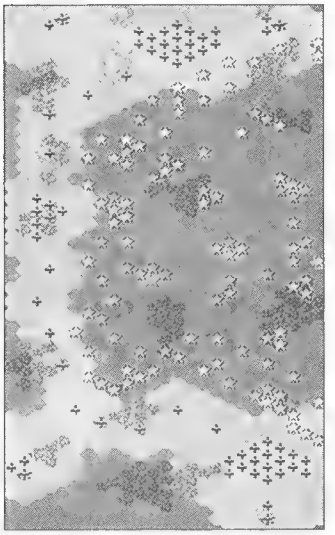
Your great winter offensive overextended itself, and now you are paying the price. You cannot hold your advanced positions, but a precipitate retreat lets the Axis roll forward too freely. Concentrate in defensible positions near Pereshchepino and Krasnopavlovka. Izyum and Kharkov itself are good defensive positions. Use your heavy tanks aggressively in the battle.

Kursk

The time for Operation Citadel has come. You are to attack and destroy the Russian forces in the Kursk salient. The seizure of several key cities behind the Russian front line (including Kursk) is the key to this battle. You must capture

all your objectives by July 24, to allow time for a new assault on Moscow this year. We must warn you that we expect massive Russian counterattacks in your sector to begin within ten days.

The Strategic Map/Scenario Errata



Starting date: July 5, 1943

Number of turns: 20

Days per turn: 1

Weather zone: Eastern Europe

Campaign game maximum core units: 43

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	1.4
Land	2.2	1.8
Naval	.5	0

Victory Conditions

For a minor victory in Kursk, you must hold one objective at the end of the game. For a major victory, you must take all the objectives. Here are the possible outcomes of your efforts:

> "Your victory at Kursk was so quick and decisive that the Soviet forces became hopelessly disorganized. We have been able to keep them on the run ever since."

This outcome takes you to the Moscow 1943 scenario during a campaign game.

Or

> "Although you were unable to take all your objectives, you were able to successfully fight off the Russian counterattack. Unfortunately, we lost the initiative on the eastern front, and another year of senseless fighting in Russia has come and gone."

Or

> "Your leadership proved weak and uninspiring at Kursk, and we were unable to regain the initiative. Another year of senseless fighting in Russia has come and gone."

Axis Strategy

Your bombers play a key role in the attack toward Kursk, so preserve their strength and knock out enemy fighters to help gain air superiority early on. Your northern battle group breaks through the strong Soviet defenses between Novosil and Kromry and then have free scope to continue to Maloarkhangelsk and ultimately attack Kursk from the north. At the same time, the southern battle group breaks through the defenses around Prokhorovka on its way to Kursk and Lgov from the south.

Artillery and air bombardment are necessary to dislodge the stubborn Russians from their entrenchments, so keep your supporting units close by. You have to capture your objectives with reasonable speed to preempt a Soviet counterattack, and near the city of Rylsk you have to be sure that no Allied counterattack develops. Reinforce this city and knock out as much of the Soviet artillery in that sector as you can.

Allied Strategy

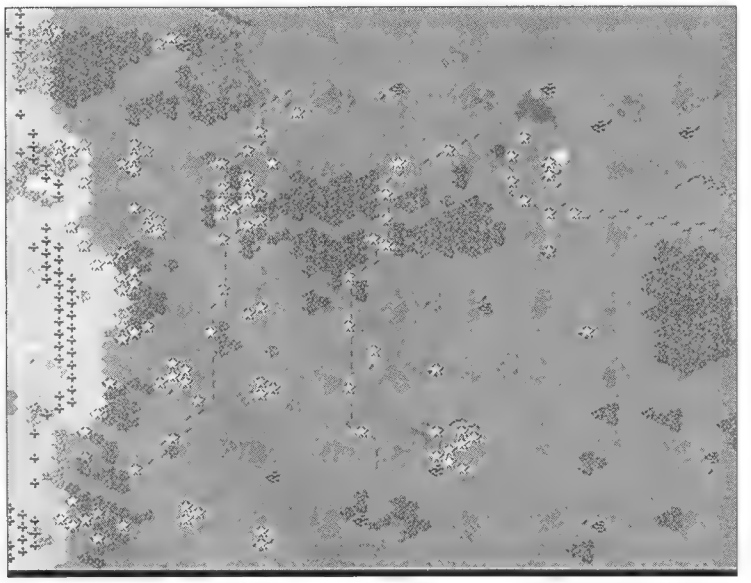
Back up your heavily entrenched line with as much artillery as possible, screened by other units from both ground and air attacks. Artillery can cripple advancing infantry intending to attack your defense works. Play your air force carefully, and use air defense units to provide ground forces, especially artillery, with protection.

Your goal is to hold while the Axis forces batter themselves against your fortifications. With luck, you can hold Prokhorovka in the south, but you are likely to lose ground in the more open northern sector before reinforcements arrive in strength.

Moscow 1943

Our armies have pushed to the gates of Moscow, and it is time for you to take the Kremlin and force the Russians to surrender. It is essential that you take your objectives by December 31.

The Strategic Map/Scenario Errata



Starting date: October 9, 1943

Number of turns: 21

Days per turn: 4

Weather zone: Eastern Europe

Campaign game maximum core units: 44

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	1.5
Land	2.2	1.8
Naval	.5	0

Victory Conditions

When you take all the objectives in 21 or fewer turns, you are victorious. If you want a major defeat of the Allied forces, take all the objectives in 16 or fewer turns.

You must defeat them decisively or else your losses are for naught:

"Although you succeeded in taking your objectives, the Russians continue to bounce back with amazing resiliency. Their counterattack has destroyed our last hope of forcing their unconditional surrender."

Axis Strategy

See the section "Moscow 1941," earlier in this chapter.

Allied Strategy

See the section "Moscow 1941," earlier in this chapter.

Die in the East or Rome to the West?

To begin the 1944 campaigning season, you may once more choose between the western front and the Russian front.

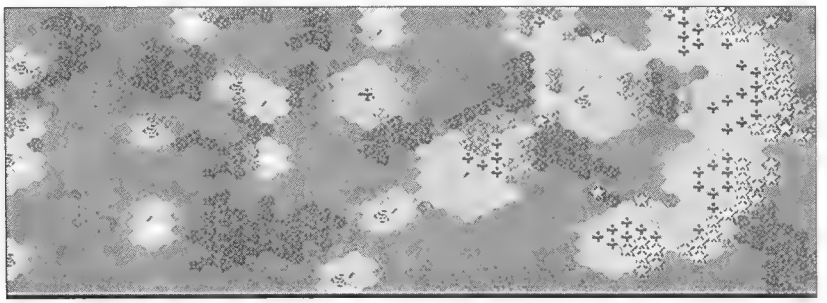
> "Disappointment in our inability to deliver a knockout blow to Russia in 1943 has been equaled by the inability of our forces to keep the Western Allies from gaining a toehold on the European mainland in southern Italy. We need a strong general like yourself to go to the western front and counter the expected Allied invasion of France. At the same time, we need your skills here in Russia to fight off the inevitable Soviet offensives. What would you like to do?"

Sticking around Russia gets you the chance to visit Byelorussia. Heading westward, however, sees you defending against the Allied landings at Anzio.

Byelorussia—The Destruction of Army Group Center

The Russians are about to unleash a massive attack aimed at the center of your line. It is up to you to fight against overwhelming odds and keep the Russians from taking Warsaw by August 29.

The Strategic Map/Scenario Errata



Starting date: June 22, 1944

Number of turns: 23

Days per turn: 3

Weather zone: Eastern Europe

Campaign game maximum core units: 45

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.8	2
Land	2	2
Naval	.5	.5

Victory Conditions

To claim a victory at Byelorussia, you must hold Warsaw at the end of the game. For a decisive victory at Byelorussia, either take all your objectives or hold Warsaw and at least two other objectives at the end of the game.

Either way, you have only a couple more chances to end the war on favorable terms:

"Your outstanding victory defending against the Soviet juggernaut has allowed us to shift forces to the west in preparation for a massive counterstroke aimed at the Americans."

Or

"Your success has convinced us that you are the one to lead our upcoming attack in the Ardennes."

Axis Strategy

This is familiar ground: Barbarossa in reverse. You begin with decent entrenchments and should make the most of them before falling back behind the Dniepr-Dvina river line to a new defensive position. Air power is again

important; with skill and luck, your superior aircraft will enable you to win air superiority against the enemy fighters and destroy their bomber force.

Begin by bringing the small armored group at Minsk forward to Borisov to help keep the partisans at bay. The front line is precarious. Mogilev holds out for some time, but Vitebsk is doomed—the main question is whether to stand and fight or fall back. Although a forward "stand or die" defense would let you hold on to those prestigious cities for a while, the "big step back" strategy in due course can also pay off by relieving the pressure on your line and forcing the Soviets to either separate their armor from their infantry and support units or bring them forward in vulnerable trucks susceptible to air, artillery, and armored attack. Spend what time you have entrenching defenders in Minsk and other rear-area cities. If you get driven back too quickly, Warsaw is a strong defensive position where you can consolidate for a last stand.

Allied Strategy

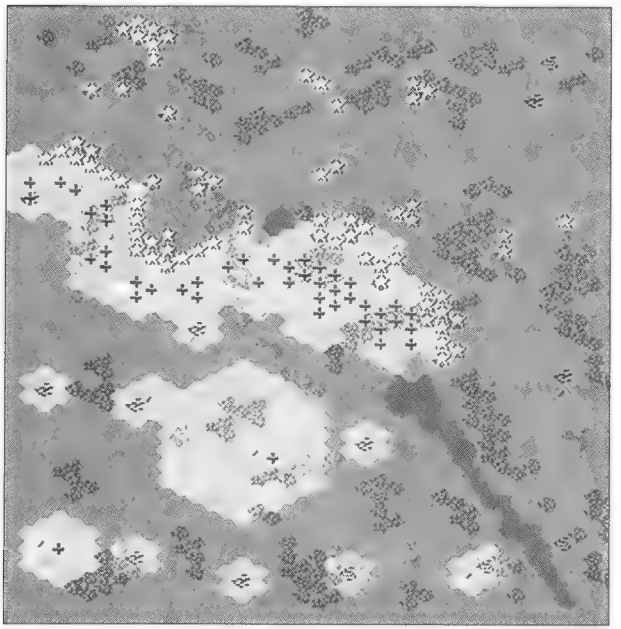
Mogilev is tricky to take by a frontal assault, but elsewhere you can push the Axis hard. Storm Vitebsk and try to drive the Axis center and left wing into the river. Use your partisans to take Borisov if possible; otherwise, keep them in the woods but position them where they can interfere with Axis movement between the wooded areas.

After you force a gap, remember the lessons of blitzkrieg you learned from the Germans the hard way: When a gap opens, push forward relentlessly and bypass isolated points of resistance. One northern and one southern thrust is a standard plan. You have to use trucks to move forward quickly enough, but be aware of the risks involved—in particular, watch out for the Tigers and Panthers prowling the Byelorussian countryside.

Budapest

We have moved your troops into Hungary, and it is time for you to lead Operation Waldteufel, the attack to retake Budapest. You must take all your objectives by March 25.

The Strategic Map/Scenario Errata



Starting date: March 6, 1945

Number of turns: 20

Days per turn: 1

Weather zone: Eastern Europe

Campaign game maximum core units: 49

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.4	2
Land	1.6	2
Naval	.5	.5

Victory Conditions

Budapest decisively belongs to the German forces when all the objectives are taken in 15 or fewer turns. Budapest is still occupied by the German forces if all the objectives are taken in 20 or fewer turns.

Axis Strategy

This is set up as a head-on fight, but you can turn it into an encirclement battle if you can turn the Allied line at the city of Slofok on Lake Balaton. Open a corridor past the Soviet left wing, and do an end run to the city of Simontornya. From there, your strike force can send a detachment to take Dunafoldvar and Solt, which then pushes west along the far bank of the Danube while the bulk of this battle group cuts behind the Soviet line to attack toward Rackeve. When the Soviets leave their entrenchments to defend Aba, they lose their defensive advantage and you can close in on them from both sides for a crushing victory. The down side of this strategy is that the flanking force can become bogged down or the forces left behind might not be sufficient to hold the line.

Allied Strategy

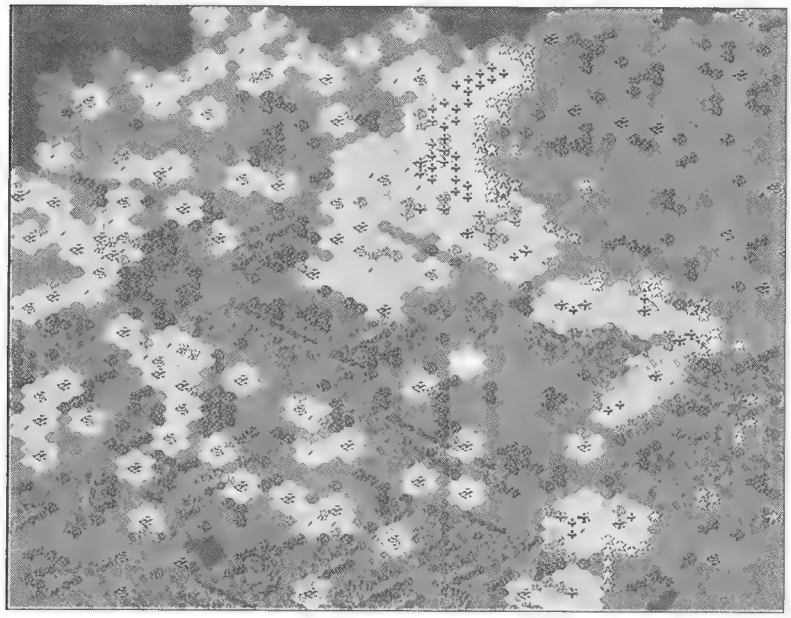
Start by putting a garrison in Slofok, and concentrate on taking the city of Tatabanya first. Because the German left wing is weak, this should happen quickly and open a gap in the line through which the Allies can push troops headed for Zirc and Gyor. The added prestige you earn from these successes may be enough to add strength before turning back north to attack the Germans near Szekesfehervar.

Your heavy tanks remain a strong point you should plan around. Unfortunately, your air force is not so good, but LA-7s and Yak 9s can counter the enemy's bombers and thus force him to escort his bombers.

Berlin—East

Although you have been able to knock the Americans and British out of this war, the war in the east has not gone well. The Russians have proven to be unstoppable and are now advancing over German soil.

The Strategic Map/Scenario Errata



Starting date: April 1, 1945

Number of turns: 13

Days per turn: 3

Weather zone: Northern Europe

Campaign game maximum core units: 50

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.4	2
Land	1.6	2
Naval	.5	.5

Victory Conditions

To claim East Berlin, you must hold Berlin and at least five other objectives at the end of the game. For a decisive claim of the city, take all the objectives.

As your career nears an end, you can hope for one of the following telegrams:

> "Your great victory brought back memories of the early war blitzkriegs through Europe. Combined with your earlier success on the western front, your victory forced the Soviets to accept favorable peace terms. You will be remembered as one of history's great generals."
>
> Or
>
> "Your great victory brought back memories of the early war blitzkriegs through Europe. We have forced the Soviets to make a separate peace with favorable terms."

Axis Strategy

You have to hold Berlin and five other objectives, but Berlin is crucial, so keep the Soviets on the other side of the Oder as long as you can. Counterattacks through gaps in the Red lines toward the rear objectives can draw off enemy forces (and you may get lucky and take objectives).

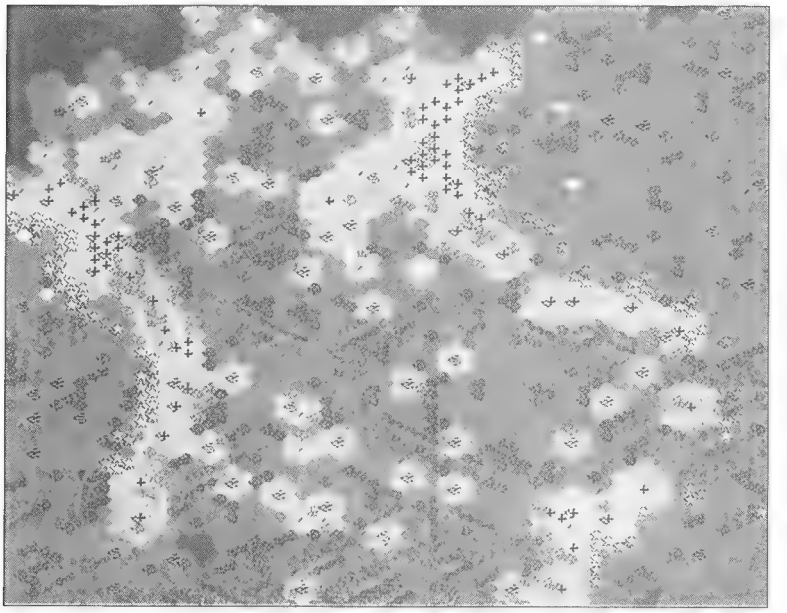
Allied Strategy

You have superior strength but limited time. The Germans are spread fairly thin except around Berlin, so you can make good time by seizing the other objectives. But don't let so many units chase after other objectives that you wind up attacking Berlin too late, and make sure that the Germans don't slip past your lines to seize objectives in your rear areas.

Berlin—The Battle For Germany

You must keep them out of central Germany by holding Berlin and at least five other objectives until after May 8. If you fail in this mission, you must at least hold Berlin until after May 8.

The Strategic Map/Scenario Errata



Starting date: April 1, 1945

Number of turns: 13

Days per turn: 3

Weather zone: Northern Europe

Campaign game maximum core units: 50

Starting Expence Levels

Unit Type Experience	German Starting Experience	Western Allied Starting Experience	Russian Starting
Air	1.2	3	2
Land	1.5	2	2
Naval	.5	.5	.5

Victory Conditions

When you either take all the possible objectives or hold Berlin and at least five other objectives at the end of the game, you claim a decisive victory. You claim a minor victory by holding Berlin until the end of the game.

This is the final hurrah. When it is over, you receive one of the following communiqués:

> "Your magnificent defense of Germany has saved us from destruction. The Russians, Americans and British have agreed to an armistice similar to the unpopular one signed in 1918."

Or

> "Although you were unable to throw out the invaders, your defense of Germany was good enough for us to sign an armistice. Unfortunately, the terms of the armistice are even harsher than those of the unpopular one signed in 1918."

Axis Strategy

Berlin is crucial. You have to defend firmly against the Soviets in the east, but in the west you have enough space for an elastic defense—trade space for time. There are many defensive obstacles on the road to Berlin, so use successive strong points to slow the advance of the Western Allies while conserving your strength so that it will last through the battle. Remember that bad weather gives you more freedom of movement because Allied air power is ineffective.

Allied Strategy

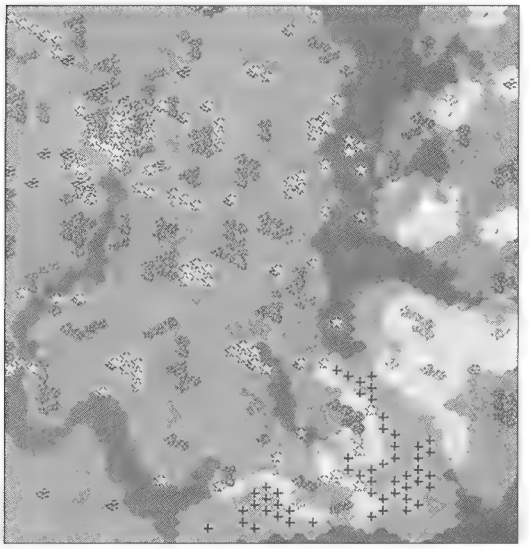
With superior forces consisting of veteran troops on both fronts, you should press the Germans relentlessly and drive on Berlin. Rear-echelon units can mop up isolated German defenders not already pulverized by air power, and your air superiority ensures that even small detachments can capture secondary objectives.

Washington—Case Gold

Europe is now united under German domination. You have achieved the success that Napoleon only dreamed of. Now it is time for you to finish this war.

Your forces stand ready to invade America. Your objectives in and around Washington, D.C. must be taken by August 15. We have reports that the U.S. is constructing a super weapon that can totally reverse the course of this war. This weapon may be available as early as mid-July, so it is imperative that you force an American surrender as early as possible.

The Strategic Map/Scenario Errata



Starting date: June 1, 1945

Number of turns: 22

Days per turn: 3

Weather zone: Northern Europe

Campaign game maximum core units: 50

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	2
Land	2.5	1
Naval	1	2

Victory Conditions

Washington can be overtaken by obtaining all your objectives in 22 or fewer turns. If you want a decisive victory, you must claim all the objectives in 15 or fewer turns.

Here is your chance to end the war decisively for the Germans. Regardless of the outcome, you are to be commended for reaching this scenario in campaign play! Here are the possible resolutions:

> "Your early capture of Washington has forced the surrender of the United States before they could successfully test an atomic bomb. North America and Europe have been successfully united. You will be remembered as the greatest Panzer General in history."
>
> Or
>
> "Your capture of Washington has allowed us to negotiate a favorable peace treaty with the Americans. Their ability to create and test an atomic bomb has kept us from uniting North America and Europe. You will be remembered as one of history's great generals."
>
> Or
>
> "Dateline Berlin—August 15, 1945. The war is over. A peace agreement between the United States and Germany was signed yesterday. Our failure to capture Washington, D.C., along with the use by the United States on August 6 of a weapon of mass destruction known as an atomic bomb were the reasons cited for this peace. We are pleased that peace has come but are sorry to report that the commander of the invasion forces was killed along with many of his troops when the first atomic bomb used in combat was detonated. He will long be remembered as one of history's great Generals."

Axis Strategy

This is the final battle—you have to use everything you have to storm Washington and win decisively. Your paratroops and air force should carry the attack behind enemy lines, seizing ill-defended cities and airfields and attacking vulnerable support units. Your veterans have more experience than the enemy troops do, although the Allies are numerically strong.

You may want to advance on Washington by using a four-pronged attack. The westernmost landing group lands near and captures Port Tobacco and then moves to Potomac Heights and divides into two groups: One crosses the Potomac River to capture South Arlington and then strikes Washington from the southwest, and the other follows the east bank of the Potomac to Anacostia to join the attack on Washington from the southeast. The landing group at Lexington Park takes that city and then thrusts up the main road through Brandywine to attack Washington from the east. The forces moving up the Potomac may be able to help this battle group advance by turning the flank of the defenses at Brandywine. The last landing group steams up Chesapeake Bay to a landing site near West River or Annapolis and drives west toward a position northeast of Washington from which it can attack the city directly or encircle it.

Whatever your plan, Washington is a big city. Make sure to allocate enough time for your troops to arrive there and fight their way through it, hex by hex.

Allied Strategy

If you can gain air superiority, you can slow the Germans enough to save the capital. Protect your British aircraft because you can't build any more. In the air, knocking out the enemy paratroops can save you many headaches when they drop behind your lines. Your land strategy should be defense in depth—move units not defending towns or cities south to make defensive stands at Brandywine, Port Tobacco, and Owings. If you can slow the Germans enough, they don't have the time to push their panzers down Pennsylvania Avenue.

The Early Moscow Question

You have reached a critical juncture in the war in Russia. Many generals believe that your forces should be diverted south to assist Army Group South in its drive to capture Kiev. There does appear to be an opportunity to trap and destroy a large part of the Soviet army in this area. Other generals believe that you should ignore the south and instead send your forces driving directly toward Moscow as soon as supplies can be brought forward, in order to reach Moscow before winter. They believe that a move toward Kiev will delay the drive on Moscow and may cause failure at the gates of Moscow.

"It appears that High Command is leaning strongly toward a drive on Kiev. Your opinion on this matter could sway their decision toward Moscow, but it would surely cost you some of your prestige to voice your opinion regarding such a key decision."

Early Moscow

See the section "Moscow 1941," earlier in this chapter. The following errata applies:

Starting date: September 8, 1941

Number of turns: 24

Days per turn: 3

Weather zone: Eastern Europe

Campaign game maximum core units: 34

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	2	.2
Land	2	.4
Naval	.5	0

Note: This scenario comes up only during the course of a campaign game if you settle the early Moscow question (as described in the preceding section) or win a decisive victory during Barbarossa.

Victory Conditions

You can decisively take Early Moscow by obtaining all your objectives in 19 or fewer turns. You can claim a minor victory by obtaining all your objectives in 24 or fewer turns.

Axis Strategy

See the section "Moscow 1941," earlier in this chapter.

Allied Strategy

See the section "Moscow 1941," earlier in this chapter.

The Sealion Plus Question

After achieving a decisive victory in France, you are presented with the following situation:

> "England lies open to invasion, ensuring total victory on the western front. The invasion is planned to occur on September 1, but a debate at the highest level of government is in progress. Some believe that we should invade Spain in order to take Gibraltar and thus free the Italian Navy to assist us against the powerful British Navy. Others believe this to be unnecessary, and they are winning the argument. Your opinion could influence the outcome of this key decision, but it will cost you some of your precious prestige to make this happen."

If you are willing to sacrifice 1,000 points of prestige, you can have the aid of the Italian navy for Sealion Plus. If you decline this opportunity, you conduct Sealion 40 without their support, which is a much tougher option.

Sealion Plus—The Regina Marina Supports Germany

Gibraltar has been taken and the Italian fleet has sailed toward England. Your mission is to take London and the industrial heart of England before your limited shipping and storms in the English Channel force you to withdraw your invasion forces. High Command has given you until September 30 to complete your mission, but we fear that you must succeed sooner or else we will see the invasion falter before the British surrender. Operation Sealion is about to begin.

The Strategic Map/Scenario Errata

Sea the original Sealion map to get the lay of the land. The following scenario errata is applicable:

Starting date: September 1, 1940

Number of turns: 15

Days per turn: 2

Weather zone: Northern Europe

Campaign game maximum core units: 29

Starting Experience Levels

Unit Type	German Starting Experience	Allied Starting Experience
Air	1.7	1
Land	1.3	.5
Naval	.5	1.5

Victory Conditions

Claim Sealion Plus by taking all the objectives in 15 or fewer turns. If you want a decisive victory, capture all the objectives in 13 or fewer turns.

The Campaigns

The following sections contain general notes about each of the campaign options you can select in *Panzer General.*

1939 Campaign

Your goals from the beginning are, first, to win; second, to win quickly; and, third, to minimize your losses, particularly avoiding the destruction of core units and maximizing the experience gained by your core units. Your army begins as an infantry force with mostly weak tanks.

Here are your priorities in the Polish scenarios:

Gain as much experience as possible for your units.

Upgrade and add tanks.

Build a small air force that can gain experience in air combat and ground attacks in the Battle of Warsaw before proceeding to the more deadly aerial combat awaiting it over Norway and western Europe.

You must try early on to score major successes quickly to have a chance of invading England in 1940 and ending the war on the western front. If you

fail to do so, you have additional chances to win the war against England if you triumph in the deserts of Africa, or you may choose to fight on the very different eastern front against the Soviets.

When you're choosing which front on which to fight, bear in mind that the Soviets have numerous but less powerful aircraft and infantry but tougher armor. This means that the challenge in the air is in particular somewhat less serious in the east than in the west. The difference between these two fronts may affect how you choose to structure and develop your core army group of units.

1941 West

Careful planning and large fuel and ammo capacity are helpful in the desert, where supply is seriously reduced except along the coast, roads, trails, and in cities. Because the best routes to your objectives tend to be narrow ones, lead off with strong, experienced armor. Because of the open nature of desert warfare and the difficulty of obtaining supplies for ground units, air power becomes more important.

1943 West

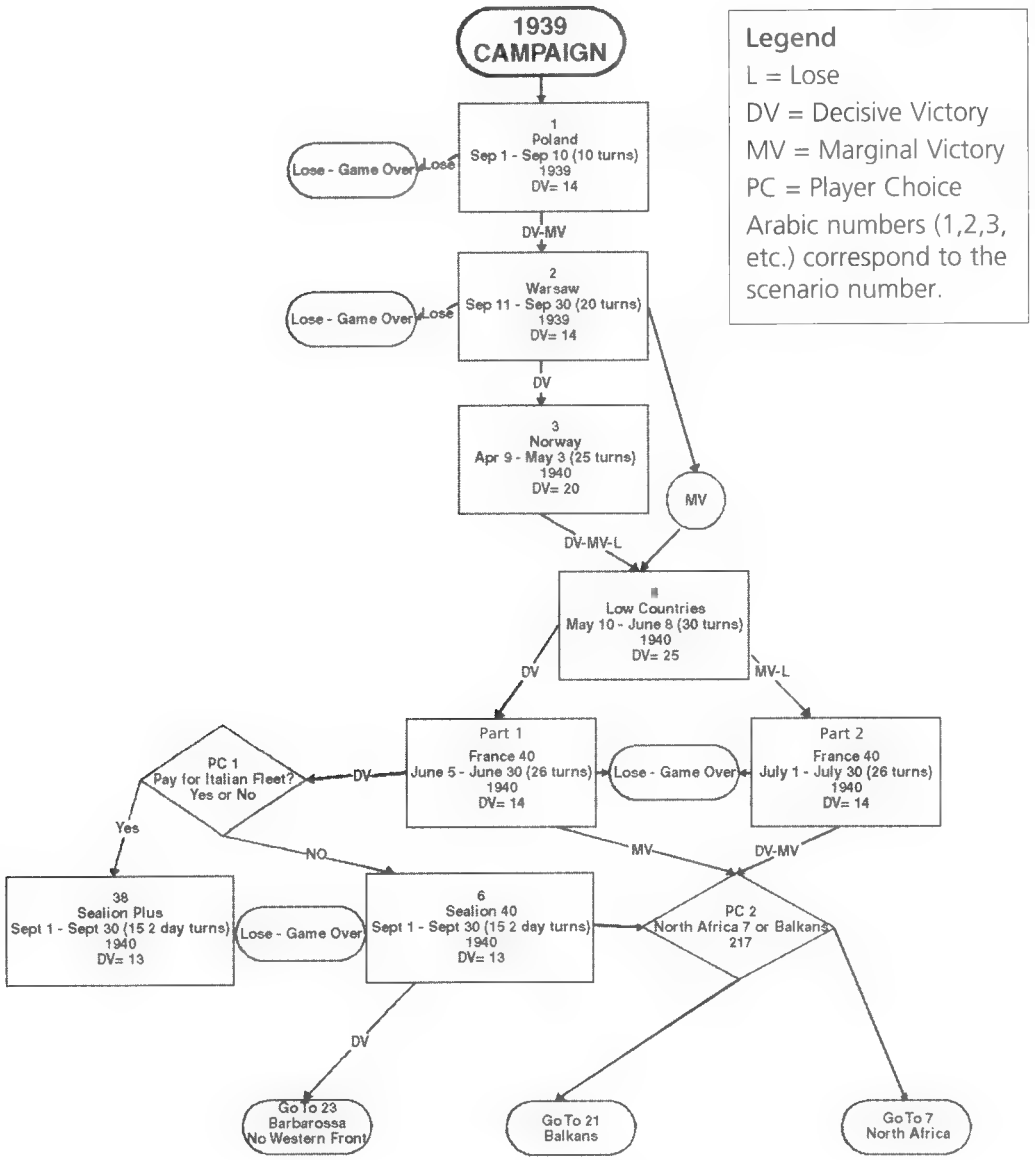
You begin on the defensive in excellent defensive terrain—Italy. Throwing the enemy back into the sea is great if it works; otherwise, sound defensive tactics and trading space for time are necessary. Air defense units and anti-tank guns are of more value than in other campaigns. A small, crack fighter force helps your air defenses punish the Allied air units, and detachments of Tigers or Panthers are able to launch sharp counterattacks against exposed enemy units. Artillery is useful on defense, but it needs protection.

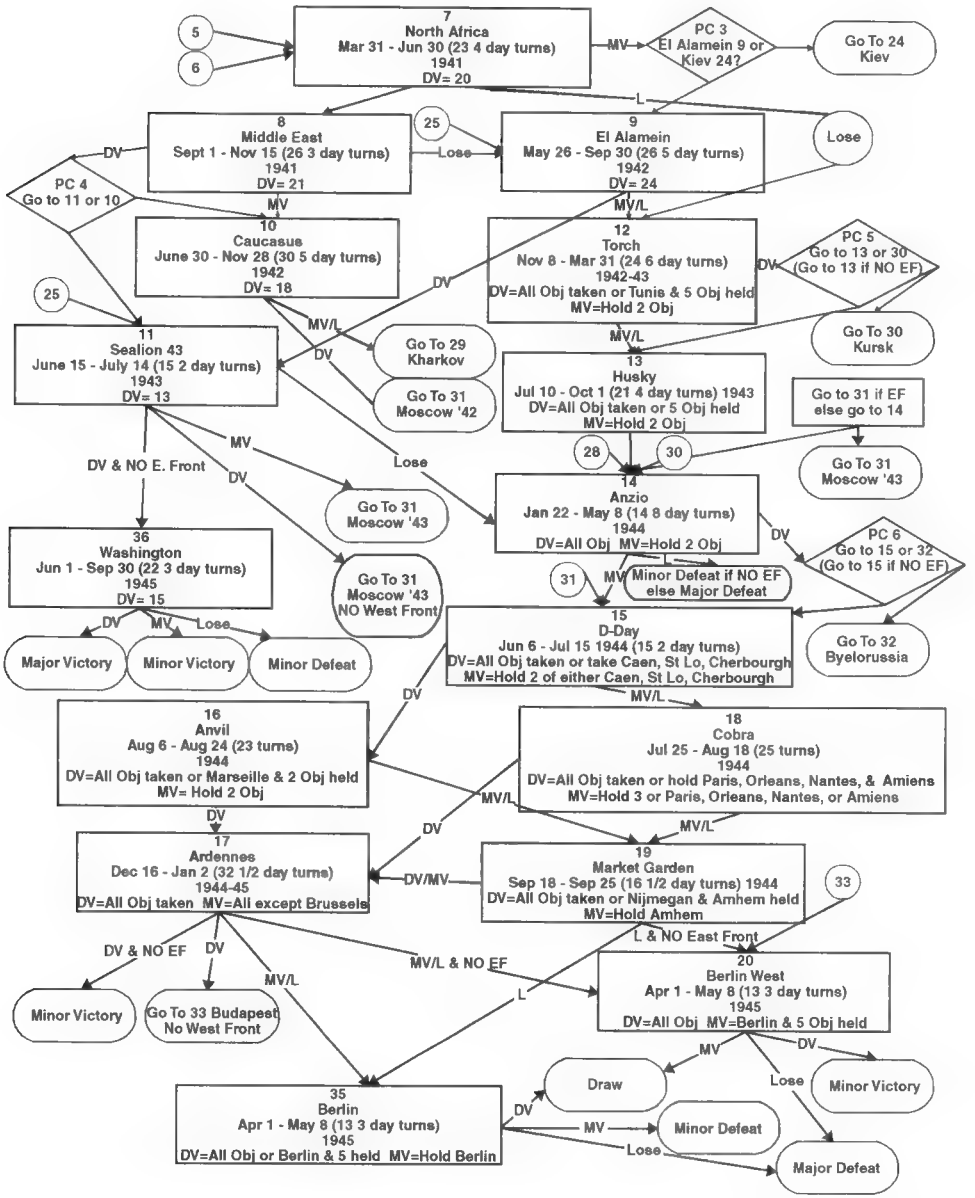
1941 and 1943 East

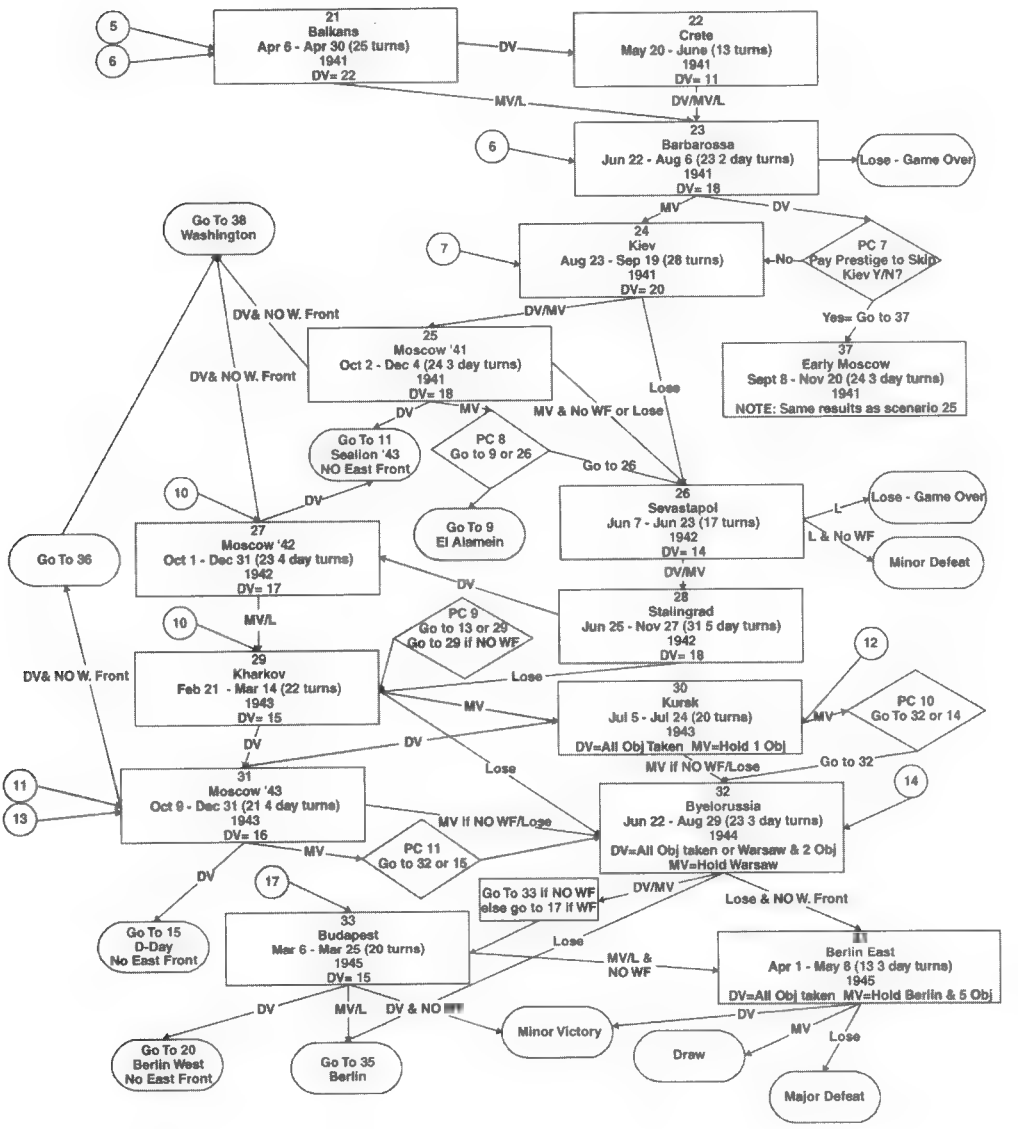
If you are good and fast, your blitzkrieg can knock out the Soviets in two scenarios (Smolensk and Moscow in '41; Kharkov and Moscow in '43). If not, it can be a long war against increasingly experienced and powerful Red Army forces. To deal with the formidable enemy armor, use only elite replacements for your armor units, and use tactical bombing to weaken the enemy armor to help your attacks. This strategy makes air superiority important; fortunately, the Russians, at least in 1941, are not that good, and you can keep an edge. If you are ultimately forced on the defensive, the dreaded 88 ATG, heavy weapons infantry, and supporting artillery make the Russians pay for every city they capture.

The Campaign Flowchart

The following flowchart depicts all the possible paths through the campaign games. Many thanks to the programming staff at SSI for allowing this document to be published herein.


1939 CAMPAIGN
1 Poland Sep 1 - Sep 10 (10 turns) 1939 DV= 14
Lose - Game Over
Lose
DV-MV
2 Warsaw Sep 11 - Sep 30 (20 turns) 1939 DV= 14
Lose - Game Over
Lose
DV
3 Norway Apr 9 - May 3 (25 turns) 1940 DV= 20
MV
DV-MV-L
Low Countries May 10 - June 8 (30 turns) 1940 DV= 25
DV
MV-L
Part 1 France 40 June 5 - June 30 (26 turns) 1940 DV= 14
DV
PC 1 Pay for Italian Fleet? Yes or No
Lose - Game Over
Part 2 France 40 July 1 - July 30 (26 turns) 1940 DV= 14
Yes
NO
MV
DV-MV
38 Sealion Plus Sept 1 - Sept 30 (15 2 day turns) 1940 DV= 13
Lose - Game Over
6 Sealion 40 Sept 1 - Sept 30 (15 2 day turns) 1940 DV= 13
PC 2 North Africa 7 or Balkans 217
DV
Go To 23 Barbarossa No Western Front
Go To 21 Balkans
Go To 7 North Africa
Legend
L = Lose
DV = Decisive Victory
MV = Marginal Victory
PC = Player Choice
Arabic numbers (1,2,3, etc.) correspond to the scenario number.


5
6
7
North Africa
Mar 31 - Jun 30 (23 4 day turns)
1941
DV= 20
MV
PC 3
El Alamein 9 or
Kiev 24?
Go To 24
Kiev
L
8
Middle East
Sept 1 - Nov 15 (26 3 day turns)
1941
DV= 21
DV
25
Lose
9
El Alamein
May 26 - Sep 30 (26 5 day turns)
1942
DV= 24
Lose
PC 4
Go to 11 or 10
MV
MV/L
10
Caucasus
June 30 - Nov 28 (30 5 day turns)
1942
DV= 18
12
Torch
Nov 8 - Mar 31 (24 6 day turns)
1942-43
DV=All Obj taken or Tunis & 5 Obj held
MV=Hold 2 Obj
DV
PC 5
Go to 13 or 30
(Go to 13 if NO EF)
25
DV
MV/L
11
Sealion 43
June 15 - July 14 (15 2 day turns)
1943
DV= 13
Go To 29
Kharkov
Go To 31
Moscow '42
MV/L
13
Husky
Jul 10 - Oct 1 (21 4 day turns) 1943
DV=All Obj taken or 5 Obj held
MV=Hold 2 Obj
Go To 30
Kursk
Go to 31 if EF
else go to 14
28
30
DV & NO E. Front
MV
DV
Lose
Go To 31
Moscow '43
14
Anzio
Jan 22 - May 8 (14 8 day turns)
1944
DV=All Obj MV=Hold 2 Obj
Go To 31
Moscow '43
36
Washington
Jun 1 - Sep 30 (22 3 day turns)
1945
DV= 15
Go To 31
Moscow '43
NO West Front
31
MV
Minor Defeat if NO EF
else Major Defeat
PC 6
Go to 15 or 32
(Go to 15 if NO EF)
DV
MV
Lose
Major Victory
Minor Victory
Minor Defeat
15
D-Day
Jun 6 - Jul 15 1944 (15 2 day turns)
DV=All Obj taken or take Caen, St Lo, Cherbourgh
MV=Hold 2 of either Caen, St Lo, Cherbourgh
Go To 32
Byelorussia
DV
MV/L
16
Anvil
Aug 6 - Aug 24 (23 turns)
1944
DV=All Obj taken or Marseille & 2 Obj held
MV= Hold 2 Obj
18
Cobra
Jul 25 - Aug 18 (25 turns)
1944
DV=All Obj taken or hold Paris, Orleans, Nantes, & Amiens
MV=Hold 3 or Paris, Orleans, Nantes, or Amiens
MV/L
DV
MV/L
17
Ardennes
Dec 16 - Jan 2 (32 1/2 day turns)
1944-45
DV=All Obj taken MV=All except Brussels
DV/MV
19
Market Garden
Sep 18 - Sep 25 (16 1/2 day turns) 1944
DV=All Obj taken or Nijmegan & Amhem held
MV=Hold Amhem
33
L & NO East Front
DV & NO EF
DV
MV/L
MV/L & NO EF
20
Berlin West
Apr 1 - May 8 (13 3 day turns)
1945
DV=All Obj MV=Berlin & 5 Obj held
Minor Victory
Go To 33 Budapest
No West Front
L
MV
DV
Draw
Lose
Minor Victory
35
Berlin
Apr 1 - May 8 (13 3 day turns)
1945
DV=All Obj or Berlin & 5 held MV=Hold Berlin
DV
MV
Minor Defeat
Lose
Major Defeat


5
6
21
Balkans
Apr 6 - Apr 30 (25 turns)
1941
DV= 22
DV
22
Crete
May 20 - June (13 turns)
1941
DV= 11
MV/L
DV/MV/L
6
23
Barbarossa
Jun 22 - Aug 6 (23 2 day turns)
1941
DV= 18
Lose - Game Over
MV
DV
Go To 38
Washington
7
24
Kiev
Aug 23 - Sep 19 (26 turns)
1941
DV= 20
No
PC 7
Pay Prestige to Skip
Kiev Y/N?
Yes= Go to 37
DV& NO W. Front
DV/MV
25
Moscow '41
Oct 2 - Dec 4 (24 3 day turns)
1941
DV= 18
37
Early Moscow
Sept 8 - Nov 20 (24 3 day turns)
1941
NOTE: Same results as scenario 25
DV& NO W. Front
Lose
DV
MV
MV & No WF or Lose
Go To 11
Sealion '43
NO East Front
PC 8
Go to 9 or 26
Go to 26
10
DV
26
Sevastapol
Jun 7 - Jun 23 (17 turns)
1942
DV= 14
L
Lose - Game Over
L & No WF
Minor Defeat
Go To 9
El Alamein
27
Moscow '42
Oct 1 - Dec 31 (23 4 day turns)
1942
DV= 17
Go To 36
DV
DV/MV
28
Stalingrad
Jun 25 - Nov 27 (31 5 day turns)
1942
DV= 18
10
MV/L
PC 9
Go to 13 or 29
Go to 29 if NO WF
12
DV& NO W. Front
29
Kharkov
Feb 21 - Mar 14 (22 turns)
1943
DV= 15
Lose
30
Kursk
Jul 5 - Jul 24 (20 turns)
1943
DV=All Obj Taken MV=Hold 1 Obj
MV
MV
PC 10
Go To 32 or 14
DV
DV
Lose
MV if NO WF/Lose
Go to 32
11
13
31
Moscow '43
Oct 9 - Dec 31 (21 4 day turns)
1943
DV= 16
32
Byelorussia
Jun 22 - Aug 29 (23 3 day turns)
1944
DV=All Obj taken or Warsaw & 2 Obj
MV=Hold Warsaw
14
MV if NO WF/Lose
MV
PC 11
Go to 32 or 15
DV
17
Go To 33 if NO WF
else go to 17 if WF
DV/MV
Lose & NO W. Front
Go To 15
D-Day
No East Front
33
Budapest
Mar 6 - Mar 25 (20 turns)
1945
DV= 15
Lose
MV/L &
NO WF
41
Berlin East
Apr 1 - May 8 (13 3 day turns)
1945
DV=All Obj taken MV=Hold Berlin & 5 Obj
DV
MV/L
DV & NO WF
Minor Victory
DV
MV
Lose
Go To 20
Berlin West
No East Front
Go To 35
Berlin
Draw
Major Defeat

Summary

By now you should have become a highly respected, confident, and competent Panzer General. You have the dust of dozens of countries embedded in your boots. While you were busy racking up this series of impressive victories, however, so were other Panzer Generals. Perhaps they will be your next challenge? To find out how to meet them so that you can properly throw down the gauntlet, turn the page.

American generals: seated left to right are William H. Simpson, George S. Patton, Jr., Carl Spaatz, Dwight D. Eisenhower, Omar Bradley, Courtney H. Hodges, and Leonard T. Gerow; standing are Ralph F. Stearley, Hoyt S. Vandenberg, Walter Bedell Smith, Otto P. Weyland, and Richard E. Nugent. Ca. 1945 (*courtesy of the National Archives and Records Administration).*

8

Matching Wits with Other Panzer Generals

After fine-tuning your skills and studying the hard questions that will improve your play in the preceding chapters, you've earned your stars as a solitaire champion of *Panzer General*. Now, however, it is time for you to leave your safe little nest of solitaire play and take on a real challenge—head-to-head *Panzer General* against real, live human opponents.

Panzer General allows you to play against other humans at the same computer, via e-mail (a delayed exchange of files by way of modem), or by uploading alternating game turns by way of a direct modem link. You must still go offline to play out each turn unlike some other modem capable games. For those of you who are new to telecommunications, modems are similar to little telephones that allow your computer to make phone calls and connect with other computers wherever a phone line exists. If you don't have a modem yet, you should (they're not very expensive compared to other computer accessories). If you already have a modem but need opponents, this chapter will help you find them.

Unfortunately, many references are made in this chapter that will be foreign to those not well-versed in modems. Although these passages will make perfect sense to the "modem initiated," this may not be you. If you are new to this whole world of connectivity, pay particular attention to the next few pages. We have tried to include as much background as possible to help explain the mysteries of telecommunication between computers.

The Modem and I

Although it is possible to have two players play against each other on the same computer, this is not an ergonomically comfortable way to go. The key word, then, for play against other human opponents is "connectivity." Here, the magic lies in the connection of two or more computers.

Broken down to its basics, connectivity may be achieved in one of two ways. The first method involves a direct connection from one computer's serial port to another computer's serial port with a special cable known as a null-modem cable. The second method involves the use of a modem to send and receive data communication over telephone lines.

Getting a modem is similar to getting your first microwave, computer, or VCR. After you learn how it works, you will wonder how you ever got along without one. Like all the other aforementioned technological wonders of the modern age, a modem takes some getting used to; understanding a few of the basics discussed here is a good beginning. Because modems and telecommunications are an important enhancement to the *Panzer General* play experience (and they are becoming increasingly more prevalent in computer gaming in general), we present a few quick, fundamental concepts.

What Is a Modem?

Modem is a shorthand name for *mo*dulator/*de*modulator. Because the computer processes data in a digital format (every piece of information is seen as though it were an electrical circuit in either an "on" or "off" state, called a bit in computer lingo), some interface is necessary to convert this information into audible sounds (known as *analog* signals) for transmission over telephone lines. The modem that initiates the phone call does the translation of data into analog signals.

The modem at the receiving end then converts these analog signals back to digital signals (bits) for the computer on that end to digest. This process goes on back and forth between the two computers through their modems as information is being transmitted and received. Each modem is both a transmitter (modulating digital signals into analog signals) and a receiver (demodulating analog signals back into digital signals); they "speak" to each other, therefore, by sending these sounds back and forth over the phone line and converting them back into their proper bits.

In addition to the data itself being transferred back and forth, there is also a continuous audible tone—that awful screeching sound you hear if you don't turn the sound off when you're using a modem. This sound is called a *carrier* signal, which is concurrently being transferred back and forth along with the analog signals. The carrier signal enables the modems to monitor the connection. When one modem detects a loss of the carrier signal, the connection is broken and the modems hang up.

Modems come in two flavors: internal and external. The internal modem is on a card that plugs into a slot inside your computer. Those who are a little queasy about opening up a computer can purchase an external modem. This free-standing little box has a power switch and a bunch of lights. It gets connected from the outside to one of the serial ports on your computer.

Serial ports, and their connecting cables, come in both the 9-pin (DB9) and 25-pin (DB25) varieties. Most computers contain at least two serial ports, commonly known as COM1 and COM2. Although you may have more COM ports, rarely do average users have more than four. Although internal modems are generally cheaper than external ones (and save some desk space), they have a major drawback that can be crucial in debugging failed modem connections: no external control signal lights.

Control Signals Made Easy

Control signals are the means by which you can detect and monitor the status of a modem connection (or lack of it). The carrier signal mentioned earlier is a control signal. The modem's use of these control signals is referred to as *handshaking*. Different brands of modems use varying control signals. The following list describes the most common control signal lights:

Modem Ready (MR) or Data Set Ready (DSR): Your modem's power is on, and the modem is connected to a phone line for normal operation.

Terminal Ready (TR) or Data Terminal Ready (DTR): Your modem's power is on, the communications software is loaded, and the modem is ready to transmit and receive data.

Send Data (SD) or Transmit Data (TD): Data is being sent from your computer, through your modem, to the remote modem.

Receive Data (RD): Data is being received from the remote modem, through your modem and into your computer.

Off Hook (OH): Your modem has picked up a telephone line in preparation for dialing.

Carrier Detected (CD) or Data Carrier Detected (DCD): Your modem and the remote modem have connected *on-line* and are ready to exchange data.

Automatic Answer (AA): Your modem has been placed in *host mode* and automatically answers any incoming calls.

Request To Send (RTS or RS): The computer asks your modem whether it can begin transmitting data.

Clear To Send (CTS or CS): Your modem signals your computer to begin sending data.

High Speed (HS): Your modem is operating at its highest base speed. This doesn't account for increased speed through the use of data compression (for example, a 9600 baud modem's HS light goes on when it's communicating at 9600 or higher).

Error Correction (EC): The modem is using its error correction mode.

Data Compression (DC): The modem is using data compression protocol to increase data *throughput* (or transmission) speed.

The "idiot lights" on your external modem that correspond to these control signals provide valuable information. They let you know whether your connection is successful and what is (or is not) happening when it is unsuccessful. Otherwise, you can sit and wait for a modem connection when no connection has been made. Although most games eventually tell you that a connection problem has occurred, the control lights available on external modems can save you a little money, time, and aggravation.

Baud Rates

Another important element of telecommunications for game play is the modem baud rate. *Baud rate* is the speed at which modems exchange data (the

higher, the faster). Baud rates vary from 300 to 57,600. Recent technology advances, however, have made the 300 and 1200 baud rates obsolete. Most games now support the faster baud rates of 2400 and 9600 baud, or even higher. (Many big computer networks, however, charge a premium for using their services at higher baud rates.)

What does all this mean to you, the modem gamer? Simply, higher baud rates mean faster data transmission. With more games supporting faster modems, think ahead. If you set out to buy a new modem, buy the fastest modem you can afford. You will not notice the difference with *Panzer General* because it does not play out in real time, but future game releases (particularly simulations) are likely to have their game play greatly enhanced at faster baud rates.

Communications Programs

A communications program is generally the means by which your modem is instructed what to do. If you think about it, every modem game is, in effect, a communications program of sorts (although limited in scope). Although communications programs are not generally relevant to playing modem games, they are important in providing you with the means to access information about games.

With a standard or specialized communications program (such as ProComm), you can access the information services and BBSs described later in this chapter so that you can share information with other modem gamers, give comments to and get help from modem game publishers, and receive patches and files related to games through a process known as *downloading*.

However, the serious modem game player should learn as much about modems and telecommunications as possible. In addition to helping your ability to debug modem game problems when they occur, a big world of information about games (and anything else you can imagine) becomes available to you with a modem, a phone line, and a little knowledge about how to use them. The networks and on-line services we discuss are a whole new frontier of discovery just waiting for you to tap into them with your modem.

The Realities of Turn-based Gaming

Strategy games tend to be either one of two types. Many are like board games in that the turn sequence is "I go, you go" (known to gaming wags as "Igo/Hugo"). This means that one player completes his turn while the other player is passive. When the first player is finished, the second player completes his turn while his opponents are passive, and so on, back and forth.

Some strategy games, such as *Command HQ*, from MicroProse, are played in real time. This means that events unfold second-by-second while both players are constantly and simultaneously inputting information to their forces. Although real-time play can get a little frantic (particularly when careful maneuvers evolve into chaotic battles), it can be quite exciting also.

Panzer General is a turn-based game. When you're playing solitaire, your computer's processor quickly performs your opponent's turns and, therefore, you are always kept busy. When you're playing against other humans, the speed of the game slows down. No human player is as fast as your computer in playing a turn of *Panzer General*. With that information, let's examine the mechanics of each of the ways you can play *Panzer General* with other humans.

Two Players on One Machine

Two players on one machine is perhaps the easiest type of human player game to arrange. Just invite a friend over for some gaming fun (or draft your family into playing) and fire up the computer. During play, the human players take their respective turns by *hot seating* it (taking turns sitting in the same chair) in front of the computer. Just be sure to watch your back and make sure that no one is looking over your shoulder to see where your pieces are while you're moving them!

Playing by Electronic Mail

A great difference exists between playing *Panzer General* by electronic mail (PBEM) and playing it any other way. The most significant difference is that, when you finish with your turn, the game is saved as a computer file that must be sent on to the next player. That player then plays his turn, saves it, and sends that saved game back to the first player. These files are usually transferred over a modem by way of electronic mail, although saving a game to disk and using

the regular mail works just as well (but more slowly). Thus, there are no elements of concurrent player activity in a PBEM game of *Panzer General.*

Figure 8-1. *Panzer General* features ten normal save game slots and two additional slots reserved exclusively for PBEM games. The latter are distinguished from the other slots by the addition of a wing to the icon graphic.

Considering the turnaround time for an average player's turn by electronic mail and the number of turns required to finish a normal game of *Panzer General*, PBEM games can last over a period of many weeks. This method of playing war games, however, has long been a popular method and should remain popular with players of *Panzer General* who have a modem.

Cheating

In several places in this book, we've discussed cheating. These discussions all were concerned with how you can try to cheat computer players. When other human players are involved in the game, however, it might be you who is being cheated.

To protect against one player accessing another's information (and, worse, changing his orders), two safety features have been added to *Panzer General.* In games in which more than one person is playing at the same computer or when it is being played by electronic mail (known colloquially as "e-mail" and discussed later on), these protection schemes take effect. In the former case, the

screen blanks out between player turns so that your display is not revealed to the next player up. In the latter case, you are asked for a password, which you must enter at the beginning of the game. Other players in your play-by-e-mail (PBEM) game are not allowed to access your display without your password.

NOTE: You may have noticed that the initial recipient of a PBEM game file can view the enemy's first move. Don't worry that this will spoil your game. This anomaly only occurs in the first turn. After that, the settings are locked and neither side can view the other.

Configuring a Two-Player Game

To set up for a two-player game, click on S from the main menu. This step takes you to the Scenario Selection screen. Here, you must first click on the face next to the allied star icon. This action switches control of the Allies from the computer (always the default configuration) to another human opponent. Because the first move is always made by the German side, whichever player controls them should be the one that performs all the setup steps.

Notice that, after both sides have been shifted to human control, the only difficulty selection that remains is Custom. When you click on this setting, a submenu appears in the upper window on the screen. This menu (explained fully in the following "Handicapping" section) allows you to alter the play balance of forces in such a way that two players of widely disparate skill levels can still enjoy a challenging game. When this has been accomplished, the final steps are to choose which scenario will be played and exit from this menu to begin the game.

Handicapping a Two-Player Game

The Custom Difficulty menu allows you to set the starting experience level and prestige point modifiers for both opponents. Regardless of the levels presented in Chapter 7, "Winning the Battles," for campaign play, the default selections for every scenario in two-player mode are zero for both prestige and experience.

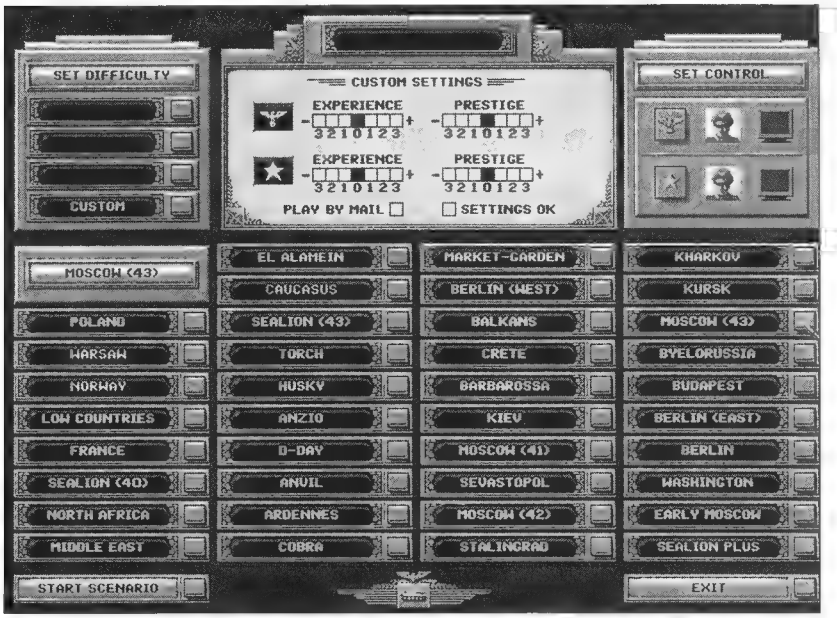


Figure 8-2. The Custom Difficulty menu is used to handicap one side of a given battle with more experienced replacement units and significantly larger prestige point dumps.

Chapter 1, "The Strategic Outlook: An Overview of *Panzer General*," provided an overview of how each of these modifiers works. Chapter 6, "Matters of Prestige," provided additional detail about prestige. There is no need for additional modification here.

Strategic Tips for Defeating Humans

Chapters 2 and 5 have already armed you with a number of concepts that are invaluable whether you're playing the computer or another human. To place the proper emphasis, however, you should know that none of them is as important in head-to-head gaming as the concept of *op*erational *de*ception (OPDEC).

OPDEC is the art of making your opponent believe that you are strong where you are weak, and vice versa. This idea, grounded in the work of Sun-Tzu, has been echoed by military thinkers throughout the ages. Let's examine a few of the ways in which you can accomplish this misdirection of your opponent's attentions in *Panzer General*.

The first step in achieving this objective is to blind the enemy. You must do this by eliminating his air and, to a lesser extent, naval forces. Devoid of long-range aerial or coastal reconnaissance, he is forced to rely on the very

limited (with the exception of recon vehicles) spotting ranges of his ground units. As long as you keep your lines intact and do not permit his ground reconnaissance forces to roam freely behind your lines, he has no concept of force movement in your rear areas. This situation opens wide avenues for misdirection, or OPDEC.

Most scenarios feature a network of east-west roads. These roads are naturally the fastest avenues of travel for forces on the offensive. Defending players must guard these routes or risk losing quickly. By the same token, offensive forces must realize that a straight approach up these avenues of maneuver results in a great deal of attrition. Thus, players on the offensive must look for alternative avenues of approach, and players on the defending side must be alert to this possibility. The key is in learning how to pull it off, or, for the defender, how to recognize the deception for what it is.

Consider the fairly common situation in which a number of rivers run north-south across the map and these waterways are bridged at only one or two points. You can usually find a wide spot where the two bridge roads are far enough apart that your forces can advance without being detected by the defenders of either road. Scout these areas with air power and destroy any light defense that has the potential of sighting you before advancing your ground units. Mount a token offense along the obvious avenues of approach, but don't press your attacks and try to cover too much ground too quickly. These diversionary tactics should focus the enemy's attention sufficiently that he will commit a portion of his strategic reserve to the wrong areas.

Meanwhile, use a dismounted engineer unit to bridge the river for your armor and mounted infantry. Advance as far and as fast as you can into the enemy's rear area, stopping only when the first contact with a hidden enemy unit is made. At that point, the element of surprise, or deception, ends. Your new objective is to consolidate the gains you have made by sweeping north or south and flanking the defenders aligned along the roads, operating in conjunction with your diversionary forces. When the new lines have been reestablished at the forward-most point of your advance, develop another stratagem for the next phase of the offensive. The same ploy will definitely not work twice on a given opponent in the same scenario.

An alternative to this approach for coastal scenarios is to conduct an amphibious end-around. Continue to occupy his forces with token ground opposition and begin building a beachhead behind his lines. This concept is considerably more difficult to execute in most *Panzer General* scenarios because of a short-

age of sea transport points. You can move only one to three units at a time, and they must land at a secluded spot on the enemy coast (which you have located through aerial reconnaissance). Furthermore, after they are there, they should remain inactive long enough for you to mass a sufficient total force to severely disrupt the enemy's rear area. Not only are you more likely to be discovered before the entire force has broken out of the beachhead, but this strategic move is also much more time-consuming to execute than a conventional deception.

Because time is the enemy of the player on the offensive, you must be very selective about when to attempt a large-scale amphibious operation. When the conditions are right, however, and you pull it off, the resultant effect on the enemy's capability to mount a credible defense is devastating.

You can also conduct OPDEC on a much more limited scale than either of the grand designs just discussed. Basically, you are looking for objective cities along the routes of travel, pinning the units there with one infantry supported by artillery. Sweep around the limited objective area with other flanking forces, pounce on any relief forces the enemy is moving into the front, and then double back to surround the besieged garrison. The same mechanics discussed earlier are still relevant, except that you are minimizing the risks of having your own forces cut off and isolated behind enemy lines by accepting much smaller territorial gains.

Finding Other Enthusiasts

After you acquire a modem, it's worthless if you don't use it. What often happens is that a new modem owner simply doesn't know who to call. In the case of *Panzer General* players, the trick is to find other enthusiasts out there with modems, standing by and waiting for a challenge from you. This section deals with the various ways in which to meet other computer-gaming enthusiasts so that you can arrange all the games of *Panzer General* you want.

Connecting to The Outside World (An Overview)

To meet people, you have to "network." People in marketing, sales, or politics, particularly, know the value of social networking. Networking is much

easier for computer gamers who seek opponents when they have modems. That is because computer gamers "hang out" in certain places and can be easily contacted.

Basically, there are four ways to find other computer-gaming enthusiasts. The surest way is to join one of the large computer networks, each of which has a special area designated for exchanging information about games. The networks charge a competitive fee, and you can get much more out of them than just *Panzer General* opponents.

Likewise, on bulletin board services (BBSs), both local and national, you can tap in to search for fellow gamers.

Finally, regional game conventions are often held by local board gamers (you can find the best listings of them in *The Dragon* magazine). Although these conventions are not primarily focused on computer games, many computer gamers attend them. You can easily make some friends there and see whether they share your interest in computer gaming by modem.

The Big Computer Networks

A *network* is a huge system that connects your computer to the world. Imagine being able to dial a number and have your computer tap in to the lives of tens and even hundreds of thousands of people. This is exactly what happens when you connect with one of the "big" computer networks: CompuServe, GEnie, Prodigy, and America Online.

These networks are inhabited by "just plain folks" like you, some of whom are avid gamers and *Panzer General* players. The people you meet on-line are usually extremely friendly and helpful to new members. On-line gamers can find each other through various designated meeting places on the networks (usually in an area set aside for gamers—it is an extremely popular on-line activity) and communicate by posting and answering bulletins to each other. Each person has an on-line *address*, where bulletins and private electronic mail (e-mail) can be sent. Many game manufacturers frequent these networks as well and offer the latest revisions to players as free "downloads" from the network information libraries. As though all that weren't enough, many game designers have accounts on these networks and can be easily reached there to personally answer rules and other questions.

Each network has its own procedure for joining, but they are similar in many ways. Generally, when you join up, you must give them all kinds of

billing information about yourself (including either a credit card or checking account number). They then automatically bill you for usage. Billing is always based on either a flat fee, a per-hour charge, special fees for special services, or, more likely, some combination of all these methods. Prices vary by network, and the competition between them is always affecting prices. Be sure to shop carefully for the best price and services when you're selecting a computer network. Now let's take a quick look at the big networks.

CompuServe

The CompuServe Information Service (CIS), the granddaddy of all the on-line information utilities, is owned by H&R Block. Founded in 1969, it features hundreds of (more than 1,500) databases and more than 1 million subscribers. Although CompuServe contains the broadest spectrum of information categories, it has, since its inception, devoted a significant amount of energy to computer gaming in particular. After you are connected to CompuServe, the areas you should investigate for modem game playing are shown in this list:

The Modem Games Forum: This forum brings gamers together from around the world to discuss any and all aspects of games that support modem play. This forum features an electronic bulletin board for message correspondence, data libraries for file exchanging, and conference rooms for real-time interactive discussions. Type GO MODEM to access it.

The Challenge Board: In this electronic directory of registered modem game players, participants profile themselves so that other gamers can search for them as opponents for most commercial, public domain, and shareware games that support a play-by-modem feature. Type GO CHALLENGE to access it.

The MTM Lobby: This lobby features on-line playing and is the latest entry in CompuServe's modem-to-modem games support services. It allows players to connect their modem-capable games to opponents through the CompuServe network. The MTM Lobby affords players the convenience of staying on-line for all aspects of modem gaming, connects them to international opponents for no more than the price of a standard domestic long-distance phone call, offers both players anonymity because

neither party has to give out his phone number to connect, and offers each gamer the opportunity to choose from hundreds of potential opponents. You cannot play *Panzer General* through this lobby because the game does not support real-time data transfer while playing, but it is still a great place to find other players. After you find them, you can exchange e-mail addresses with them and begin exchanging game files in that manner. Type **GO MTMLOBBY** to access it.

The Gamers Forum: This very active on-line special interest group is devoted to computer games and simulations. Join fellow players, designers, writers, and programmers in exchanging hints, reviews, and product information. Type **GO GAMERS** to access it.

The Game Publishers Forums (A through D): These specific on-line areas are devoted to technical support for a myriad of entertainment products available from many game companies. Here, you can talk directly to company representatives about your questions and suggestions. Also, the latest program updates are posted in this forum's library for downloading. Type **GO GAMEPUB**, and then choose the forum that contains the software publisher you are interested in contacting.

For more information, contact:

CompuServe, Inc.
P.O. Box 20212
Columbus, OH 43220
Voice: (800) 848-8199
Fax: (614) 457-0348

GEnie

The GE in GEnie stands for General Electric, the owners of this particular network. Founded in 1985, GEnie is approaching a half million subscribers. GEnie is probably the network best supported by "names" in the game industry (both board and computer games), with a Games RoundTable area that has a dizzying array of subjects and topics to choose from for all your gaming needs. When you are connected to GEnie, type **M 805** at the ? prompt to get to this particular section, which is hosted by Scorpia. Here, you are in "gamer information heaven."

A second area of interest to computer gamers is the Computer Game Design RoundTable. In this more cerebral area, design philosophy and industry politics are discussed by important persons in the computer gaming "biz." To access this area, type **M 935** at the ? prompt.

For more information, contact:

General Electric Information Services, Inc.
401 North Washington Street
Rockville, MD 20850
Voice: (301) 340-4000
Fax: (301) 2551-6421

Prodigy

From its extremely humble beginnings in 1984, Prodigy has grown exponentially. Prodigy is a joint venture of Sears and IBM. With its aggressive marketing and a user interface that is loaded with graphics and extremely easy to use, this service has grown to close to 2 million users and shows no sign of slowing.

Like Goliath, Prodigy's strength is also the source of its weakness. Prodigy is a friendly, family-oriented, graphically intense network that charges a low, flat fee each month for unlimited use (about the same price as a cable TV pay channel). This low fee, however, makes Prodigy slower to use than the other networks because of all the graphics enhancements. (Now that it has established a 9600 baud service, however, that problem is far more manageable). The friendly, family-oriented element means that bulletins are closely monitored and that "borderline" subjects and language are promptly censored. Additionally, by using a flat-fee system, Prodigy is supported by advertisers who run "commercials" along the bottom of the screen every time it refreshes.

With no real capability to upload files to share with others and only some limited download capabilities, Prodigy is at a real disadvantage for active computer gamers who like to share files. An additional charge for e-mail after a monthly quota is used up weighs in the balance against the huge audience it reaches and its very reasonable flat-fee pricing structure. Still, many modem gamers can be found on Prodigy's bulletin boards and can be reached by typing **GAME CENTER** from the on-line Jump command.

For more information contact:

Prodigy Service Company
445 Hamilton Avenue
White Plains, NY 10601
Voice: (914) 993-8000

America Online

Although America Online (founded in 1989) is the junior member to the other networks, it is rapidly gaining on their positions, having recently announced the plateau of more than 1 million installed users. An independent enterprise, it is the only one that is not a subsidiary of some huge corporation. Consequently, America Online is more of an "anything goes" network, in which freedom of expression and individuality have been raised to an art form. Like Prodigy, it uses an attractive, graphical *front end* (special software for connecting with the network) and is extremely easy to use. Although not exactly a panacea for gamers, it is a fun hangout with all the services of the larger networks (on-line chat, file uploading and downloading, large libraries, special interest groups, e-mail, and gaming areas). There is a particularly warm and friendly community on America Online, and it is a comfortable network on which to begin.

For more information, contact:

America Online, Inc.
8619 Westwood Center Drive
Vienna, VA 22182
Voice: (800) 227-6364
Fax: (703) 883-1509

The BBSs

A bulletin board system (BBS) usually offers many of the features of the larger networks, but with much more localized interest areas and smaller user bases. There are so many private BBSs that it is difficult to keep track of them. Almost anyone with a computer, a modem, and a separate telephone number can start a BBS (and many people do).

Bulletin board services were developed soon after microcomputers began to appear and began as "telecommunications for the common person." They are often free of charge (except for the toll charges from Ma Bell). Over the years, thousands of BBSs, some of which have had as many as 32 modem lines operating, have sprung up. Some can even boast of thousands of members and countless files available for them to access.

Honestly, the best way to stay on top of all the various BBSs out there (so that you can pick up on the ones that interest you—particularly gaming ones) is to subscribe to *Boardwatch* magazine. For more information, contact:

Boardwatch magazine
5970 South Vivian Street
Littleton, CO 80127
Voice: (303) 973-6038

The other best way to find good BBS numbers to call is to ask the friends with modems that you will make. In any case, it is better to begin your search for *Panzer General* opponents on one of the big networks rather than on a local BBS.

Local Gaming Conventions

Yes, there really are gaming conventions in which scores, hundreds, and even thousands of gamers attend to play all kinds of games (including computer games) over entire weekends (particularly long holiday weekends), Often, the dedicated gamers there play "around the clock," 24 hours a day. Although board and role-playing games are usually featured, many gamers attending these conventions also have computers with modems and are happy to set up matches with you. In any case, they are a delight to attend and are well worth a look.

The best place to find a current, comprehensive listing of game conventions is in *The Dragon* magazine, published by TSR, Inc. (the people who make Dungeons and Dragons). You can find *The Dragon* in most major bookstore chains or by subscribing at the rate of $27 for 12 monthly issues to:

TSR, Inc.
P.O. Box 5695
Boston, MA 02206.

Creating Your Own Phone Book of Gamers

By fishing for *Panzer General* opponents in these places, you soon make many new friends and learn about the other games they like to play. It is probably a good idea from the outset to get a separate address book, just for information about these new gaming buddies. By including their various phone numbers (home, work, modem, fax, etc.), on-line addresses, playing interests, etc., you'll have a handy resource book for finding that one extra human player you need for your next game. It's a satisfying book to keep and a proud symbol of your networking with other gamers.

Hanging Up

Whew! This chapter presented quite a bit of information about using telecommunications to play *Panzer General* with other human players. Still, the thrill of challenging another human brain makes it all worth it. You've been presented with enough places to look to find opponents so that you never have to play solo again (unless, of course, you want to).

Appendixes

Appendix
Combat Value Tables

The following tables are organized by country and unit type. You can use them as a reference to determine when certain types of equipment become available for purchase, as denoted in the Date column, and for a number of other items of interest. The Value column denotes the Prestige Points the enemy gains if he destroys the last strength point of a unit of this type. You can also multiply this number by ten to ascertain the purchase price of a new unit of this type. The Initiative column denotes that unit's rating for firing first in combat situations (see Chapter 5, Combat and Tactics—When Units Collide," for a full explanation of initiative). Finally, the unit's target type is listed: S is soft, H is hard, and P is plane. Again, to understand how these ratings influence combat resolution, see Chapter 5.

Name	Date	Val	Init	TT
Belgium				
Anti-Tank				
37mm ATG	9/39	2	6	S
Artillery				
75mm Gun	9/39	6	1	S

Name	Date	Val	Init	TT
Fighter				
CR42	1/40	20	3	P
F-DXX1	9/39	18	4	P
PZLP24	6/40	19	3	P
Infantry				
Infantry	9/39	2	0	S
Bulgaria				
Anti-Tank				
3.7 PaK35/36	1/39	2	6	S
Artillery				
7.5 leFk 16nA	9/38	7	2	S
Infantry				
Infantry	6/40	2	1	S
Land Transport				
Opel 6700	9/36	2	1	S
France				
Air Defense				
40mm AD	5/40	8	2	S
Anti-Tank				
57mm ATG	7/43	6	8	S
25mm ATG	9/39	2	6	S
47mm ATG	9/39	3	7	S
75mm ATG	9/39	7	8	S

Name	Date	Val	Init	TT
Artillery				
105mm Gun	9/43	14	0	S
75mm Gun	1/43	6	0	S
105mm Gun	9/39	14	1	S
155mm Gun	9/39	17	1	S
75mm Gun	9/39	6	1	S
Fighter				
Chk 75A-1	2/40	24	5	P
D520S	2/40	27	5	P
HFII	2/40	22	4	P
MS 406	9/39	19	3	P
Infantry				
Partisans	9/39	2	3	S
Infantry	1/43	7	1	S
Mtn Inf	1/43	7	1	S
Infantry	9/39	3	1	S
Land Transport				
GM Truck	1/39	2	0	H
M2 Hftrk	1/43	7	2	H
Truck	9/39	2	1	S
Level Bomber				
Amiot 143	9/39	25	1	P
Recon				
M20 LAC	6/43	9	7	H
M8 LAC	6/43	10	7	H

Name	Date	Val	Init	TT
Tank				
AMC 35	9/39	8	6	H
CL AMX R40	6/40	7	3	H
Ch B1-bis	9/39	15	7	H
Ch D1 IG	9/39	5	3	H
Ch LrH35	9/39	7	3	H
Ch S35	9/39	13	7	H
M4A1	1/43	19	9	H
M5	1/43	15	7	H
Tactical Bomber				
Bloch 174	3/41	30	3	P
Potez 63	9/39	25	4	P

Germany

Air Defense				
2 FlaK38 (4)	9/39	5	2	S
3.7 FlaK36	1/40	7	2	S
8.8 FlaK 18	9/39	19	11	S
Ostwind I	12/44	21	2	H
SdKfz 6/2	5/40	12	2	S
Anti-Tank				
3.7 PaK35/36	1/39	2	6	S
5 PaK38	1/41	7	9	S
7.5 PaK40	1/42	10	10	S
8.8 FK18 ATG	6/40	19	11	S
8.8 PaK43/41	6/44	14	12	S
Hetzer	4/44	12	10	H
JadgPanther	6/44	22	12	H
JadgTiger	12/44	26	11	H

Name	Date	Val	Init	TT
Jadgpanzer 38	1/45	16	11	H
Jadfpz IV/48	1/44	13	10	H
Jadgpz IV/70	8/44	17	11	H
Jp Elephant	7/43	19	12	H
Marder II	3/42	7	10	H
Marder IIIH	3/42	7	10	H
Marder IIIM	3/43	8	10	H
Nashorn	2/43	14	12	H
PzJager IB	3/40	2	8	H
StuGIIIF	3/42	10	10	H
StuGIIIF/8	9/42	11	10	H
StuGIIIG	12/42	12	10	H
Anti-Aircraft				
37 FlakPz IV	5/44	13	6	H
FlaKPz 38(t)	1/44	8	6	H
SdKfz 10/4	9/39	7	5	S
SdKfz 7/1	1/42	14	6	S
Wirbelwind	9/44	16	6	H
Artillery				
10.5 leFH 18	1/40	15	2	S
15 sFH 18	4/40	19	2	S
17K18	1/42	20	2	S
7.5 leFk 16nA	9/38	7	2	S
Hummel	7/43	24	5	H
StuGIIIb	3/40	9	5	H
StuG IV	12/43	19	10	H
StuH42	10/42	20	5	H
Wespe	7/43	21	5	H
sIG 38(t)M	3/43	26	4	H
sIG IB	5/40	22	4	H

Name	Date	Val	Init	TT
sIG II	1/42	23	4	H
Fighter				
BF 109e	9/39	28	5	P
BF 109f	7/40	30	6	P
BF 109g	5/42	31	5	P
BF 109k	1/45	32	6	P
DO335	4/44	40	7	P
FW190a	9/40	37	6	P
FW190d9	11/42	40	6	P
HE162	12/44	44	8	P
HE219	11/43	39	5	P
ME163B/Komet	5/44	32	8	P
ME262A1	6/44	43	7	P
Infantry				
39 Wehr Inf	6/38	5	1	S
40 LuftW FJ	1/40	11	0	S
40 Wehr HW	1/40	7	2	S
43 LuftW FJ	1/43	13	0	S
43 Wehr HW	1/43	10	2	S
43 Wehr Inf	1/43	7	1	S
Bridge Eng	9/39	14	2	S
Pioniere Inf	9/39	12	2	S
Land Transport				
Opel 6700	9/36	2	1	S
SPW 250/1	9/41	6	2	H
SPW 251/1	9/39	5	2	H
Level Bomber				
Do17z	1/40	29	1	P
Do217e	11/40	34	3	P

Name	Date	Val	Init	TT
He177a	3/42	45	4	P
He111 H2	1/40	34	2	P
Ju188a	6/43	39	3	P
Ju88a	9/39	37	2	P
Recon				
Lynx	9/43	8	6	H
PSW 222/4r	9/39	5	6	H
PSW 231/6r	1/38	5	6	H
PSW 232/8r	7/42	6	6	H
PSW 233/8r	6/43	7	5	H
PSW 234/1-8r	7/44	11	6	H
PSW 234/2-8r	10/43	16	9	H
Tactical Bomber				
BF 110c	1/40	29	4	P
BF 110d	3/41	29	4	P
BF 110e	12/41	32	4	P
BF 110g	7/43	32	4	P
FW190f	1/43	37	6	P
FW190g	3/42	38	6	P
JU87B	9/39	21	2	P
JU87d	2/41	30	2	P
JU87r	3/41	23	2	P
ME210c	4/42	39	5	P
ME410a	12/42	39	5	P
Tank				
Panther A	9/43	26	11	H
Panther D	7/43	24	11	H
Panther G	4/44	28	12	H
Pz 35(t)	3/39	7	3	H

Name	Date	Val	Init	TT
Pz38(t)A	5/39	10	6	H
Pz38(t)F	11/40	11	6	H
Pz38(t)G	10/41	11	6	H
PzIA	1/35	1	2	H
PzIB	8/35	2	2	H
PzIIA	3/37	7	6	H
PzIID	3/38	8	6	H
PzIIF	1/40	9	6	H
PzIIIE	9/39	10	6	H
PzIIIG	4/40	14	7	H
PzIIIH	1/41	14	8	H
PzIIIJ	6/41	16	9	H
PzIIIN	9/42	14	5	H
PzIVD	1/40	11	5	H
PzIVF2	6/42	19	10	H
PzIVG	7/42	19	10	H
PzIVH	6/43	19	10	H
PzIVJ	8/44	22	10	H
Tiger I	8/42	25	11	H
Tiger II	6/44	32	12	H

Greece

Anti-Tank

37mm ATG	9/39	2	6	S

Artillery

75mm Gun	9/39	6	1	S

Infantry

Greek Inf	6/40	4	1	S

Name	Date	Val	Init	TT
Hungary				
Anti-Tank				
3.7 PaK35/36	1/39	2	6	S
Artillery				
7.5 leFk 16nA	9/38	7	2	S
Infantry				
Hungarian Inf	6/40	3	1	S
Land Transport				
Opel 6700	9/36	2	1	S
Italy				
Air Defense				
75mm SPAD	11/41	12	2	S
Anti-Tank				
47mm ATG	1/38	6	7	S
90mm Breda	5/42	10	10	S
Sem L-47	7/42	1	7	H
Sem M-41M	7/43	10	10	H
Sem M-42	1/42	7	6	H
Artillery				
105mm Gun	6/40	12	1	S
155mm Gun	1/42	15	1	S
75mm Gun	6/40	5	1	S
Sem M-40	1/42	11	5	H
Sem M-42M	9/43	17	7	H

Name	Date	Val	Init	TT
Fighter				
Centauro	6/42	33	7	P
Ma C202/F	3/42	29	5	P
Ma C205/O	3/43	32	6	P
Re2000/F1	6/40	22	3	P
Re2005/S	1/43	32	5	P
Infantry				
Bersglri	6/40	6	1	S
Infantry	6/40	2	o	S
Land Transport				
Fiat Truck	1/38	2	0	S
Level Bomber				
CA309	6/40	25	1	P
P108 Bi	6/40	45	4	P
Recon				
AB-40	1/41	4	4	H
AB-41	8/41	7	6	H
Tactical Bomber				
BA65	6/40	20	1	P
Tank				
L6/40	4/41	7	6	H
M13/40	12/40	10	7	H
M14/41	1/42	12	8	H
M15/42	9/43	14	8	H

Name	Date	Val	Init	TT
Netherlands				
Anti-Tank				
37mm ATG	9/39	2	6	S
Artillery				
75mm Gun	9/39	6	1	S
Fighter				
CR42	1/40	20	3	P
F-DXX1	9/39	18	4	P
PZLP24	6/40	19	3	P
Infantry				
Infantry	9/39	2	0	S
Norway				
Air Defense				
40mm AD	4/40	8	2	S
Artillery				
75mm Gun	9/39	6	1	S
Fighter				
F-DXXIII	9/39	25	4	P
Infantry				
Infantry	9/39	3	1	S
Poland				
Anti-Tank				
37mm ATG	9/39	2	6	S
6 Pdr ATG	1/43	6	8	S

Name	Date	Val	Init	TT
Artillery				
75mm Gun	9/39	6	1	S
25P dr	1/43	13	1	S
6" Gun	1/43	16	1	S
Fighter				
PZL P11c	9/39	16	3	P
PZL P24g	9/39	19	3	P
Infantry				
Infantry	1/43	5	1	S
Paratroops	1/43	13	0	S
Cavalry	11/38	8	1	S
Infantry	11/38	2	0	S
Land Transport				
Truck	9/39	2	0	S
Bren Ca	1/43	6	0	H
Truck	1/43	2	0	H
Recon				
M8 LAC	6/43	10	7	H
Tactical Bomber				
PZL P23b	9/39	22	1	P
PZL P37b	9/39	25	2	P
Tank				
M5 Stuart	1/43	15	4	H
Sherman	1/43	18	9	H
7TP	9/39	7	6	H
TK3	3/39	2	2	H

Name	Date	Val	Init	TT
Rumania				
Anti-Tank				
3.7 PaK35/36	1/39	2	6	S
Artillery				
7.5 leFK	9/38	7	2	S
Infantry				
Rumanian Inf	6/40	3	1	S
Land Transport				
Opel 6700	9/36	2	1	S
United Kingdom				
Air Defense				
3" AD	5/40	9	2	S
40mm AD	4/40	8	2	S
40mm SPAD	2/43	8	2	S
Anti-Aircraft				
20mm SPAA	6/43	3	6	S
Anti-Tank				
17 Pdr ATG	4/43	12	11	S
2 Pdr ATG	4/43	3	7	S
6 Pdr ATG	4/42	6	8	S
Achilles	5/44	10	11	H
Archer	9/44	8	11	H
Artillery				
25 Pdr Gun	4/40	13	1	S
5.5" Gun	5/42	16	1	S

Name	Date	Val	Init	TT
6" Gun	5/40	16	1	S
7.2" Gun	6/43	19	1	S
M7 Priest	9/42	23	7	H
Sexton	6/44	23	7	H
Fighter				
Hur I	1/37	23	4	P
Meteor III	7/44	38	7	P
Spit I	1/38	26	5	P
Spit II	4/40	26	5	P
Spit IX	3/42	31	6	P
Spit VB	6/41	27	5	P
Spit XIV	11/44	33	6	P
Spit XVII	1/45	36	6	P
Infantry				
Bridge Eng	12/39	13	2	S
HW Inf 39	12/39	5	1	S
HW Inf 43	1/43	6	2	S
Inf 39	12/39	4	1	S
Inf 43	1/43	5	1	S
Para 39	12/39	12	0	S
Para 43	1/43	13	0	S
Land Transport				
3 Tn Lorry	1/39	2	0	H
Bren Ca	1/39	6	0	H
Ram Kg	6/44	3	3	H
Level Bomber				
Lancaster	10/41	40	4	P
Stir MkI	5/40	30	6	P

Name	Date	Val	Init	TT
Recon				
AEC I	10/42	8	7	H
AEC II	6/43	10	8	H
AEC III	5/44	13	9	H
Daimler SC	4/41	9	7	H
Humber SC	6/43	4	3	H
Tactical Bomber				
Blen MKI	8/36	27	3	P
Blen MKIV	7/39	30	3	P
Hur IID	3/42	24	4	P
Hur IV	10/43	26	4	P
Mosq VI	3/41	39	5	P
Typhoon IB	11/42	32	5	P
Tanks				
Chal A30	7/44	21	11	H
Church III	8/42	15	8	H
Church IV	10/42	18	9	H
Church VI	4/44	18	9	H
Church VII	6/44	20	9	H
Comet	7/44	21	10	H
Crdr I	6/41	12	7	H
Crdr II	11/41	12	7	H
Crdr III	6/42	13	8	H
Crom IV	11/43	18	9	H
Crom VI	6/44	26	4	H
Crom VII	6/44	18	9	H
Grant	10/41	16	7	H
M3 Stuart	8/41	13	7	H
M5 Stuart	11/42	15	4	H
Matilda I	4/40	4	2	H

Name	Date	Val	Init	TT
Matilda II	12/40	13	7	H
Mk I A9	5/40	11	7	H
Mk III A13	6/40	10	7	H
Sh Firefly	5/44	23	11	H
Sherman	8/42	18	9	H

United States

Air Defense

3" AD	12/41	11	2	S
40mm AD	6/44	8	2	S
90mm AD	6/44	19	2	S

Anti-Aircraft

M15A1 MGMC	11/42	12	6	H
M16 MGMC	6/44	13	4	H

Anti-Tank

3" ATG	7/43	10	10	S
37mm ATG	11/42	4	7	S
57mm ATG	7/43	6	8	S
M10	3/43	10	10	H
M18	8/44	9	10	H
M36	8/44	13	11	H

Artillery

105mm Gun	9/43	14	0	S
155mm Gun	6/44	18	0	S
75mm Gun	12/41	6	0	S
8" Gun	7/44	20	0	S
M12 GMC	6/44	24	5	H
M3 GMC	11/42	13	3	H
M4A3 (105)	7/44	27	4	H

Name	Date	Val	Init	TT
M7	11/42	21	4	H
M8 HMC	9/43	13	3	H
Fighters				
P38 Ltng	10/42	38	4	P
P40 Whwk	12/41	26	5	P
P47B Tbolt	1/43	31	5	P
P47D Tbolt	9/43	32	5	P
P47N Tbolt	1/45	38	5	P
P51B Mustg	1/43	34	6	P
P51D Mustg	1/44	37	6	P
P51H Mustg	6/44	38	6	P
Infantry				
Bridge Eng	12/41	15	2	S
Eng 41	12/41	12	2	S
Eng 43	1/43	13	2	S
Inf 41	12/41	5	2	S
Inf 43	1/43	7	2	S
Inf HW 41	12/41	8	2	S
Inf HW 43	1/43	9	2	S
Para 41	6/41	12	0	S
Para 43	1/43	14	1	S
Rangers 43	6/43	8	2	S
Land Transport				
GM Truck	1/39	2	0	H
M2 Halftrk	12/41	7	2	H
Level Bomber				
B17F FF	8/42	45	5	P
B17G FF	1/43	46	5	P
B24D Lib	6/42	40	4	P

Name	Date	Val	Init	TT
B29 SF	6/44	56	6	P
B32 Dom	11/44	54	6	P
Recon				
M24	12/44	11	9	H
M20 LAC	6/43	9	7	H
M8 LAC	6/43	10	7	H
Tactical Bomber				
A26 Inv	12/43	44	5	P
B25B Mitch	1/42	30	2	P
B25H Mitch	10/43	35	3	P
B26C Mitch	12/41	35	4	P
Tank				
M26	3/45	26	11	H
M2A4	12/41	12	7	H
M3	11/42	13	7	H
M4	12/42	19	9	H
M4A1	12/42	19	9	H
M4A1(76)W	7/44	20	10	H
M4A3	7/43	19	9	H
M4A3(76)W	7/44	20	10	H
M4A3E2	6/44	22	9	H
M4A3E2(76)	12/44	23	10	H
M5	11/42	15	7	H

U.S.S.R.

Air Defense				
7.6cm AD	12/39	5	2	S

Name	Date	Val	Init	TT
Anti-Aircraft				
Z25mm SPAA	9/40	5	5	S
Anti-Tank				
45mm ATG	9/39	2	5	S
57mm ATG	1/41	5	6	S
76mm ATG	11/39	5	6	S
ISU-122	3/44	20	8	H
ISU-152 AT	3/44	26	5	H
SU-100	12/44	15	10	H
SU-152 AT	7/43	24	5	H
SU-85	9/43	11	7	H
Artillery				
12.2cm Gun	12/39	16	0	S
15.2cm Gun	12/39	17	0	S
ISU-152	3/44	26	5	H
SU-122	2/43	20	4	H
SU-152	9/43	24	5	H
Fighter				
I-16	9/39	19	3	P
La-3	4/41	22	4	P
La-5	4/43	26	5	P
La-7	7/44	29	6	P
MiG-3	3/41	27	4	P
YaK-1	6/41	24	4	P
YaK-1M	10/41	25	5	P
YaK-7B	6/43	26	5	P
YaK-9	4/44	28	6	P
YaK-9M	1/43	28	6	P

Name	Date	Val	Init	TT
Infantry				
Partisans	9/39	2	3	S
Bridge Eng	9/39	12	2	S
Cavalry	9/39	8	1	S
Infantry	9/39	3	1	S
Paratroops	9/39	10	0	S
SMG Inf	9/39	5	0	S
Level Bomber				
Il-4	2/43	33	1	P
Land Transport				
Truck	9/39	2	0	S
Recon				
BA-10	1/39	5	5	H
BA-64	10/41	4	2	H
Tactical Bomber				
Il-10	1/45	28	4	P
Il-2	7/41	25	3	P
Il-2M3	3/42	26	3	P
PE-2	3/41	30	4	P
PE-8	6/44	35	2	P
Tank				
BT-5	9/39	11	5	H
BT-7	9/39	13	4	H
IS-2	3/44	26	8	H
KV-1/39	9/39	17	5	H
KV-1/41	7/41	19	6	H
KV-1/42	6/42	20	6	H

Name	Date	Val	Init	TT
KV-2	1/41	17	5	H
KV-85	10/43	20	7	H
T-28M1	9/39	11	4	H
T-34/40	1/41	16	5	H
T-34/41	10/41	17	6	H
T-34/43	10/42	18	6	H
T-34/85	4/44	19	6	H
T-40	4/42	5	3	H
T-60	8/41	13	5	H
T-70	10/41	14	6	H

Yugoslavia

Anti-Tank

37mm ATG	8/39	2	6	S

Artillery

75mm Gun	9/39	6	1	S

Infantry

Partisans	9/39	2	3	S
Yugoslav Inf	6/40	2	0	S

Land Transport

Truck	9/39	2	0	S

Appendix
Combat Resolution Tables

The following tables are organized by country and unit type. The values listed are shown from left to right: Movement, Spotting, Range, Soft Attack, Hard Attack, Ground Defense, and Close Defense. Chapter 5, "Combat and Tactics—When Units Collide," provides a full explanation of these ratings. You should refer to this table to aid in your assessment of how opposing units stack up in combat. The table is also useful when you're considering the purchase of new unit types.

Name	MVT	SPT	RNG	SA	HA	GD	CD
Belgium							
Anti-Aircraft							
37mm ATG	1	2	0	1	7	8	0
Artillery							
75mm Gun	1	2	0	1	7	8	0
Fighter							
CR42	12	3	0	1	2	6	0
F-DXX1	12	3	0	1	1	6	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
PZLP24	12	3	0	1	1	6	0
Infantry							
Infantry	2	1	0	5	1	5	0
Bulgaria							
Anti-Tank							
3.7 PaK35/36	1	2	0	2	7	8	0
Artillery							
7.5 leFk 16nA	1	1	2	11	5	2	0
Infantry							
Infantry	2	1	0	5	1	4	0
Land Transport							
Opel 6700	8	1	0	1	0	1	0
France							
Air Defense							
40mm AD	1	2	2	(9)	(12)	2	0
Anti-Tank							
57mm ATG	1	2	0	1	13	8	0
25mm ATG	1	2	0	1	5	8	0
47mm ATG	1	2	0	1	8	8	0
75mm ATG	1	2	0	8	12	8	0
Artillery							
105mm Gun	1	1	3	16	8	2	0
75mm Gun	1	1	2	12	5	2	0
105mm Gun	1	1	3	15	8	2	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
155mm Gun	1	1	3	19	14	2	0
75mm Gun	1	1	2	11	5	2	0
Fighter							
CHk 75A-1	13	3	0	1	2	7	0
D520S	13	3	0	1	2	8	0
HFII	22	13	0	1	2	7	0
MS 406	19	12	0	1	2	7	0
Infantry							
Partisans	2	2	0	4	1	3	0
Infantry	7	3	0	6	6	6	0
Mtn Inf	7	3	0	6	6	8	0
Infantry	3	2	0	4	1	5	0
Land Transport							
GM Truck	8	1	0	0	0	1	0
M2 Hftrk	8	2	0	3	3	7	1
Truck	8	1	0	1	0	2	0
Level Bomber							
Amiot 143	11	2	0	1	4	9	0
Recon							
M20 LAC	8	5	0	3	3	7	1
M8 LAC	8	5	0	3	9	7	1
Tank							
AMC 35	5	3	0	3	6	8	1
CL AMX R40	3	3	0	1	5	11	1
Ch B1 Bis	4	2	0	11	8	11	2
Ch D1 IG	3	1	0	1	5	8	1
Ch Lr H35	4	3	0	1	5	10	1

Name	MVT	SPT	RNG	SA	HA	GD	CD
Ch S35	5	1	0	3	8	10	1
M4A1	5	2	0	11	12	13	3
M5	7	4	0	5	9	10	3
Tactical Bomber							
Bloch 174	13	4	0	6	5	10	0
Potez 63	12	4	0	4	3	9	0
Germany							
Air Defense							
2 FlaK38(4)	1	2	2	(7)	(4)	2	0
3.7 FlaK36	1	2	2	(4)	(7)	2	0
8.8 FlaK 18	1	1	3	(13)	(18)	2	0
Ostwind I	5	2	2	(4)	(7)	9	1
SdKfz 6/2	6	2	2	(1)	(4)	3	0
Anti-Tank							
3.7 PaK35/36	1	2	0	2	7	8	0
5 PaK38	1	2	0	4	11	8	9
7.5 PaK40	1	2	0	8	15	8	0
8.8 FK18 ATG	1	1	0	13	18	4	0
PaK43/41	1	2	0	10	25	8	0
Hetzer	5	1	0	11	15	14	1
JadgPanther	6	1	0	13	25	18	4
JadgTiger	3	1	0	17	31	22	4
Jadgpanzer 38	5	1	0	11	21	15	1
Jadfpz IV/48	5	1	0	11	15	13	3
Jadgpz IV/70	5	1	0	11	21	15	3
Jp Elephant	3	1	0	13	25	18	1
Marder II	5	1	0	11	15	6	0
Marder IIIH	5	1	0	11	15	7	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Marder IIIM	5	1	0	11	15	7	0
Nashorn	5	1	0	13	25	7	0
PzJager IB	5	1	0	5	9	6	0
StuGIIIF	5	1	0	11	14	10	1
StuGIIIF/8	5	1	0	11	15	11	1
StuGIIIG	5	1	0	11	15	11	4
Anti-Aircraft							
37 FlakPz IV	5	2	0	4	7	9	0
FlaKPz 38(t)	5	2	0	3	7	6	0
SdKfz 10/4	6	2	0	3	2	2	1
SdKfz 7/1	6	2	0	6	4	2	1
Wirbelwind	5	2	0	6	4	7	1
Artillery							
10.5 leFH 18	1	1	3	15	8	2	0
15 sFH 18	1	1	3	19	14	2	0
17K18	1	1	3	19	14	2	0
7.5 leFk 16nA	1	1	2	11	5	2	0
Hummel	5	1	3	19	14	7	0
StuGIIIb	5	1	1	11	8	10	0
StuG IV	5	1	1	14	15	11	2
StuH42	5	1	2	15	8	11	4
Wespe	5	1	3	15	8	6	0
sIG 38(t)M	4	1	3	19	14	13	0
sIG IB	5	1	3	19	14	5	0
sIG II	5	1	3	19	14	8	0
Fighter							
BF 109e	13	3	0	2	2	7	0
BF 109f	14	3	0	1	2	7	0
BF 109g	14	3	0	2	2	7	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
BF 109k	14	3	0	2	3	8	0
Do335	14	3	0	1	2	8	0
FW190a	14	3	0	2	3	8	0
FW190d9	14	3	0	2	3	8	0
HE162	14	3	0	3	3	8	0
HE219	14	6	0	3	3	11	0
ME163B/Komet	14	3	0	1	3	11	0
ME262A1	14	3	0	3	3	9	0
Infantry							
39 Wehr Inf	3	2	0	6	2	6	0
40 LuftW FJ	3	2	0	8	2	7	0
40 Wehr HW	2	2	0	8	3	8	0
43 LuftW FJ	3	2	0	8	6	8	0
43 Wehr HW	2	2	0	8	8	8	0
43 Wehr Inf	3	2	0	7	8	6	0
Bridge Eng	2	2	0	8	5	8	0
Pioniere Inf	2	2	0	8	5	8	0
Land Transport							
Opel 6700	8	1	0	1	0	1	0
SPW 250/1	7	2	0	1	1	8	0
SPW 251/1	6	2	0	1	1	7	0
Level Bomber							
Do17z	12	2	0	1	4	9	0
Do217e	13	2	0	1	4	11	0
He177a	13	2	0	1	4	15	0
He111 H2	12	2	0	1	4	11	0
Ju188a	13	2	0	1	4	14	0
Ju88a	12	2	0	1	4	11	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Recon							
Lynx	8	4	0	3	6	8	3
PSW 222/4r	8	4	0	2	3	7	1
PSW 231/6r	8	4	0	3	3	6	1
PSW 232/8r	8	4	0	2	3	7	2
PSW 233/8r	8	4	0	11	12	7	0
PSW 234/1-8r	8	4	0	2	3	8	1
PSW 234/2-8r	8	4	0	7	11	8	2
Tactical Bomber							
BF 110c	13	5	0	5	5	9	0
BF 110d	13	5	0	5	5	8	0
BF 110e	13	5	0	7	7	8	0
BF 110g	13	5	0	7	7	8	0
FW190f	14	4	0	5	5	8	0
FW190g	14	4	0	7	7	7	0
JU87B	11	2	0	9	8	6	0
JU87D	12	2	0	11	10	8	0
JU87R	11	2	0	9	8	6	0
ME210c	14	5	0	7	7	9	0
ME410a	14	5	0	7	7	9	0
Tank							
Panther A	6	2	0	11	21	17	5
Panther D	6	2	0	11	21	16	2
Panther G	6	2	0	11	21	18	5
Pz 35(t)	5	3	0	3	6	8	2
Pz38(t)A	5	3	0	3	7	8	2
Pz38(t)F	5	3	0	3	7	9	2
Pz38(t)G	5	3	0	3	7	9	2
PzIA	5	3	0	2	1	6	2
PzIB	5	3	0	2	1	7	2

Name	MVT	SPT	RNG	SA	HA	GD	CD
PzIIA	5	3	0	2	3	7	3
PzIID	6	3	0	2	3	7	3
P7zIIF	5	3	0	2	3	8	3
PzIIIE	5	2	0	3	7	8	2
PzIIIG	5	2	0	5	7	9	2
PzIIIH	5	2	0	7	9	10	2
PzIIIJ	5	2	0	7	11	10	2
PzIIIN	5	2	0	11	12	10	3
PzIVD	5	2	0	11	8	8	2
PzIVF2	5	2	0	11	14	10	2
PzIVG	5	2	0	11	14	10	2
PzIVH	5	2	0	11	14	10	2
PzIVJ	5	2	0	11	15	11	5
Tiger I	5	2	0	13	18	15	4
Tiger II	4	2	0	13	25	21	5
Greece							
Anti-Tank							
37mm ATG	1	2	0	1	7	8	0
Artillery							
75mm Gun	1	1	2	11	5	2	0
Infantry							
Greek Inf	3	1	0	4	1	6	0
Hungary							
Anti-Tank							
3.7 PaK35/36	1	2	0	2	7	8	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Artillery							
7.5 leFk 16nA	1	1	2	11	5	2	0
Infantry							
Hungarian Inf	3	1	0	4	1	5	0
Land Transport							
Opel 6700	8	1	0	1	0	1	0
Italy							
Air Defense							
75mm SPAD	5	1	2	(11)	(8)	2	0
Anti-Tank							
47mm ATG	1	2	0	2	8	8	0
90mm Breda	6	1	0	10	18	5	0
Sem L-47	5	1	0	5	8	8	0
Sem M-41M	4	1	0	13	18	9	0
Sem M-42	5	1	0	11	12	9	1
Artillery							
105mm Gun	1	1	3	12	7	2	0
155mm Gun	1	1	3	15	11	2	0
75mm Gun	1	1	2	9	4	2	0
Sem M-40	4	1	1	14	8	9	1
Sem M-42M	5	1	1	18	8	12	2
Fighter							
Centauro	14	3	0	3	2	7	0
Ma C202/F	14	3	0	1	2	7	0
Ma C205/O	14	3	0	2	2	7	0
Re2000/F1	13	3	0	1	2	7	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Re2005/S	14	4	0	5	4	9	0
Infantry							
Bersglri	3	2	0	6	2	7	0
Infantry	2	1	0	5	1	5	0
Land Transport							
Fiat Truck	8	1	0	2	0	1	0
Level Bomber							
CA309	12	2	0	1	4	9	0
P108 Bi	12	2	0	1	4	17	0
Recon							
AB-40	8	3	0	1	2	6	3
AB-41	8	4	0	1	3	7	2
Tactical Bomber							
BA65	12	2	0	7	6	9	0
Tank							
L6/40	5	3	0	1	3	8	1
M13/40	4	1	0	3	8	8	2
M14/41	4	2	0	3	8	8	3
M15/42	5	2	0	5	9	9	3

Netherlands

Anti-Tank							
37mm ATG	1	2	0	1	7	8	0
Artillery							
75mm Gun	1	1	2	11	5	2	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Fighter							
CR42	12	3	0	1	2	6	0
F-DXX1	12	3	0	1	1	6	0
PZLP24	12	3	0	1	1	6	0
Infantry							
Infantry	2	1	0	5	1	5	0
Norway							
Air Defense							
40mm AD	1	2	2	(9)	(12)	2	0
Artillery							
75mm Gun	1	0	2	11	5	2	0
Fighter							
F-DXXIII	13	3	0	1	2	6	0
Infantry							
Infantry	2	2	0	5	1	5	0
Poland							
Anti-Tank							
37mm ATG	1	2	0	1	7	8	0
6 Pdr ATG	1	2	0	1	12	8	0
Artillery							
75mm Gun	1	1	2	11	5	2	0
25 Pdr	1	1	3	13	6	2	0
6" Gun	1	1	3	17	12	2	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Fighter							
PZL P11c	11	3	0	1	1	6	0
PZL P24g	12	3	0	1	1	6	0
Infantry							
Infantry	3	2	0	7	6	6	0
Paratroops	3	2	0	8	6	9	0
Cavalry	5	2	0	4	1	2	0
Infantry	2	1	0	5	1	3	0
Land Transport							
Truck	8	1	0	1	0	2	1
Bren Ca	8	1	0	2	0	7	0
Truck	8	1	0	0	0	1	0
Recon							
M8 LAC	8	5	0	3	9	7	1
Tactical Bomber							
PZL P23b	11	3	0	7	6	9	0
PZL P37b	12	3	0	7	6	9	0
Tank							
M5 Stuart	7	4	0	11	8	14	2
Sherman	5	2	0	11	12	12	2
7TP	4	3	0	1	7	7	1
TK3	6	3	0	2	1	6	1

Rumania

Anti-Tank							
3.7 PaK35/36	1	2	0	2	7	8	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Artillery							
7.5 leFK	1	1	2	11	5	2	0
Infantry							
Rumanian Inf	3	1	0	5	1	6	0
Land Transport							
Opel 6700	8	1	0	1	0	1	0
United Kingdom							
Air Defense							
3" AD	1	1	2	(11)	(14)	2	0
40mm AD	1	2	2	(9)	(12)	2	0
40mm SPAD	7	2	0	(9)	(10)	2	0
Anti-Aircraft							
20mm SPAA	7	2	0	1	3	2	0
Anti-Tank							
17 Pdr ATG	1	2	0	1	21	8	0
2 Pdr ATG	1	2	0	1	8	8	0
6 Pdr ATG	1	2	0	1	13	8	0
Achilles	6	1	0	1	21	10	0
Archer	4	1	0	0	21	8	0
Artillery							
25 Pdr Gun	1	1	3	13	6	2	0
5.5" Gun	1	1	3	17	10	2	0
6" Gun	1	1	3	17	12	2	0
7.2" Gun	1	1	3	19	14	2	0
M7 Priest	5	1	3	12	6	7	0
Sexton	3	1	3	16	6	9	1

Name	MVT	SPT	RNG	SA	HA	GD	CD
Fighter							
Hur I	13	3	0	1	1	7	0
Meteor III	14	3	0	3	2	9	0
Spit I	13	3	0	1	1	7	0
Spit II	13	3	0	1	1	7	0
Spit IX	14	3	0	2	2	8	0
Spit VB	13	3	0	2	2	7	0
Spit XIV	14	3	0	2	2	7	0
Spit XVII	14	3	0	2	2	8	0
Infantry							
Bridge Eng	2	2	0	6	4	7	0
HW Inf 39	3	2	0	6	2	7	0
HW Inf 43	3	2	0	8	6	8	0
Inf 39	3	2	0	6	2	6	0
Inf 43	3	2	0	7	6	6	0
Para 39	3	2	0	8	2	9	0
Para 43	3	2	0	8	6	9	0
Land Transport							
3 Tn Lorry	8	1	0	0	0	1	0
Bren Ca	8	1	0	2	0	7	0
Ram Kg	6	1	0	1	1	2	1
Level Bomber							
Lancaster	12	2	0	1	4	15	0
Stir MkI	11	2	0	1	4	11	0
Recon							
AEC I	7	4	0	2	8	10	2
AEC II	7	4	0	2	13	9	2
AEC III	7	4	0	11	12	9	2

Name	MVT	SPT	RNG	SA	HA	GD	CD
Daimler SC	8	4	0	5	9	6	1
Humber SC	8	4	0	2	1	6	2
Tactical Bomber							
Blen MKI	12	3	0	7	6	9	0
Blen MKIV	12	3	0	7	6	9	0
Hur IID	12	4	0	2	8	7	0
Hur IV	13	4	0	5	5	7	0
Mosq VI	14	3	0	7	6	11	0
Typhoon IB	14	4	0	2	5	8	0
Tank							
Chal A30	5	2	0	11	21	10	2
Church III	4	2	0	2	13	14	2
Church IV	4	2	0	11	12	14	2
Church VI	4	2	0	11	12	14	2
Church VII	3	2	0	11	12	17	2
Comet	6	2	0	11	17	12	2
Crdr I	5	2	0	3	8	9	2
Crdr II	5	2	0	2	8	10	2
Crdr III	5	2	0	1	13	10	2
Crom IV	7	2	0	11	12	11	2
Crom VI	5	2	3	14	6	11	2
Crom VII	6	2	0	11	12	12	2
Grant	5	2	0	11	11	11	3
M3 Stuart	6	4	0	3	9	9	2
M5 Stuart	7	4	0	11	8	14	2
Matilda I	3	2	0	2	1	11	1
Matilda II	3	2	0	2	8	14	2
Mk I A9	5	2	0	5	8	6	2
Mk III A13	6	2	0	3	8	6	2
Sh Firefly	5	2	0	11	21	12	2

Name	MVT	SPT	RNG	SA	HA	GD	CD
Sherman	5	2	0	12	12	12	2

United States

Air Defense

3" AD	1	1	2	(11)	(15)	2	0
40mm AD	1	2	2	(9)	(12)	2	0
90mm AD	1	1	3	(13)	(18)	2	0

Anti-Aircraft

M15A1 MGMC	8	2	0	3	7	6	0
M16 MGMC	8	2	0	7	1	6	0

Anti-Tank

3" ATG	1	2	0	6	15	8	0
37mm ATG	1	2	0	1	9	8	0
57mm ATG	1	2	0	1	13	8	0
M10	6	1	0	9	15	10	0
M18	8	1	0	9	15	7	0
M36	5	1	0	13	19	10	0

Artillery

105mm Gun	1	1	0	16	8	2	0
155mm Gun	1	1	3	20	14	2	0
75mm Gun	1	1	2	12	5	2	0
8" Gun	1	1	3	21	16	2	0
M12 GMC	5	1	3	19	14	7	0
M3 GMC	8	1	2	11	5	6	0
M4A3 (105)	6	2	3	15	8	12	3
M7	5	1	3	15	8	7	0
M8 HMC	7	1	2	11	5	7	1

Name	MVT	SPT	RNG	SA	HA	GD	CD
Fighter							
P38 Ltng	14	4	0	7	7	9	0
P40 Whwk	13	3	0	1	2	7	0
P47B Tbolt	14	3	0	3	2	9	0
P47D Tbolt	14	4	0	5	5	10	0
P47N Tbolt	14	5	0	7	7	10	0
P51B Mustg	14	3	0	1	2	8	0
P51D Mustg	14	3	0	2	2	8	0
P51H Mustg	14	3	0	2	2	8	0
Infantry							
Bridge Eng	3	2	0	9	6	9	0
Eng 41	3	2	0	8	3	9	0
Eng 43	3	2	0	9	6	9	0
Inf 41	3	1	0	6	2	6	0
Inf 43	3	1	0	6	6	6	0
Inf HW 41	3	2	0	8	3	8	0
Inf HW 43	3	2	0	9	6	8	0
Para 41	3	2	0	8	2	9	0
Para 43	3	2	0	8	6	9	0
Rangers 43	3	3	0	8	6	9	0
Land Transport							
GM Truck	8	1	0	0	0	1	0
M2 Halftrk	8	2	0	3	3	7	1
Level Bomber							
B17F FF	13	2	0	1	4	18	0
B17G FF	13	2	0	1	4	18	0
B24D Lib	12	2	0	1	4	15	0
B29 SF	13	2	0	1	4	21	0
B32 Dom	14	2	0	1	4	21	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Recon							
M24	7	3	0	11	12	10	3
M20 LAC	8	5	0	3	3	7	1
M8 LAC	8	5	0	3	9	7	1
Tactical Bomber							
A26 Inv	14	3	0	13	9	11	0
B25B Mitch	13	2	0	5	5	11	0
B25H Mitch	12	2	0	6	6	11	0
B26C Mitch	12	2	0	13	9	10	0
Tank							
M26	5	2	0	13	19	18	3
M2A4	7	4	0	3	9	9	1
M3	7	4	0	3	9	9	1
M4	5	2	0	11	12	11	3
M4A1	5	2	0	11	12	11	3
M4A1(76)W	5	2	0	9	15	12	3
M4A3	6	2	0	11	12	11	3
M4A3(76)W	6	2	0	9	15	12	13
M4A3E2	5	2	0	11	12	18	3
M4A3E2(76)	5	2	0	9	15	18	3
M5	7	4	0	5	9	10	3

U.S.S.R.

Air Defense							
7.6cm AD	1	1	2	(8)	(14)	2	0
Anti-Aircraft							
Z25mm SPAA	6	2	0	2	5	2	1

Name	MVT	SPT	RNG	SA	HA	GD	CD
Anti-Tank							
45mm ATG	1	2	0	1	8	8	0
57mm ATG	1	2	0	1	13	8	0
76mm ATG	1	2	0	3	14	8	0
ISU-122	5	1	2	14	21	17	1
ISU-152 AT	5	1	0	19	16	17	1
SU-100	6	1	0	1	22	14	0
SU-152 AT	5	1	0	19	13	14	0
SU-85	6	1	0	10	13	14	0
Artillery							
12.2cm Gun	1	1	3	17	10	2	0
15.2cm Gun	1	1	3	19	14	2	0
ISU-152	5	1	2	19	16	17	1
SU-122	6	1	2	17	19	14	0
SU-152	5	1	2	19	13	14	0
Fighter							
I-16	12	3	0	1	2	6	0
La-3	13	3	0	1	1	6	0
La-5	13	3	0	1	2	7	0
La-7	14	3	0	1	2	8	0
MiG-3	14	3	0	1	1	7	0
YaK-1	13	3	0	1	2	7	0
YaK-1M	13	3	0	1	2	7	0
YaK-7B	13	3	0	1	2	7	0
YaK-9	13	3	0	1	2	7	0
YaK-9M	13	3	0	1	2	7	0
Infantry							
Partisans	2	3	0	4	1	3	0
Bridge Eng	2	2	0	8	4	8	0

Name	MVT	SPT	RNG	SA	HA	GD	CD
Cavalry	5	2	0	4	1	2	0
Infantry	2	1	0	6	2	5	0
Paratroops	3	2	0	7	2	6	1
SMG Inf	3	1	0	8	2	5	0
Level Bomber							
Il-4	12	2	0	1	4	11	0
Land Transport							
Truck	8	1	0	2	0	2	0
Recon							
BA-10	7	3	0	1	7	8	1
BA-64	8	4	0	2	1	7	1
Tactical Bomber							
Il-10	12	3	0	3	5	14	0
Il-2	12	3	0	3	5	12	0
Il-2M3	12	3	0	3	7	13	0
PE-2	13	3	0	3	5	10	0
PE-8	12	2	0	1	4	13	0
Tank							
BT-5	8	1	0	1	7	9	2
BT-7	8	2	0	8	6	9	3
IS-2	5	2	0	14	21	18	2
KV-1/39	5	2	0	8	9	14	3
KV-1/41	5	2	0	8	10	15	3
KV-1/42	4	2	0	8	10	17	3
KV-2	3	1	0	16	3	14	2
KV-85	5	2	0	10	13	14	3
T-28M1	3	2	0	8	6	12	3
T-34/40	6	2	0	8	9	13	2

Name	MVT	SPT	RNG	SA	HA	GD	CD
T-34/41	6	2	0	8	10	14	2
T-34/43	6	2	0	8	10	14	2
T-34/85	6	2	0	10	13	15	2
T-40	6	2	0	2	1	8	1
T-60	5	2	0	1	3	10	2
T-70	6	3	0	1	7	12	1

Yugoslavia

Anti-Tank

37mm ATG	1	2	0	1	7	8	0

Artillery

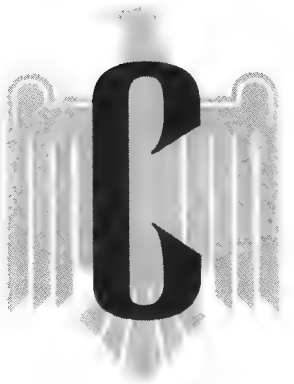
75mm Gun	1	1	2	11	5	2	0

Infantry

Partisans	2	3	0	4	1	3	0
Yugoslav Inf	3	1	0	4	1	4	0

Land Transport

Truck	8	1	0	1	0	2	0



Appendix

Air and Naval Combat Tables

These tables are organized by country and unit type. Air Attack, Naval Attack, and Air Defense factors are listed.

Name	AA	NA	AD
Belgium			
Anti-Aircraft			
37mm ATG	0	1	8
Artillery			
75mm Gun	0	1	6
Fighter			
CR42	6	1	6
F-DXX1	6	1	8
PZLP24	8	1	8
Infantry			
Infantry	0	1	7

Name	AA	NA	AD
Bulgaria			
Anti-Tank			
3.7 PaK35/36	0	1	8
Artillery			
7.5 leFk 16nA	0	1	6
Infantry			
Infantry	0	0	7
Land Transport			
Opel 6700	0	1	0
France			
Air Defense			
40mm AD	8	1	6
Anti-Tank			
57mm ATG	0	0	8
25mm ATG	0	1	8
47mm ATG	0	1	8
75mm ATG	0	1	8
Artillery			
105mm Gun	0	0	6
75mm Gun	0	0	6
105mm Gun	0	1	6
155mm Gun	0	1	6
75mm Gun	0	1	6
Fighter			
CHk 75A-1	8	1	10

Name	AA	NA	AD
D520S	12	1	10
HFII	10	1	10
MS 406	8	1	10
Infantry			
Partisans	0	1	7
Infantry	0	0	9
Mtn Inf	0	0	9
Infantry	0	1	7
Land Transport			
GM Truck	0	0	0
M2 Hftrk	6	1	1
Truck	0	0	0
Level Bomber			
Amiot 143	6	3	4
Recon			
M20 LAC	2	0	6
M8 LAC	2	0	6
Tank			
AMC 35	0	1	7
CL AMX R40	0	1	9
Ch B1 Bis	0	1	11
Ch D1 IG	0	1	9
Ch Lr H35	0	1	9
Ch S35	0	1	11
M4A1	2	0	9
M5	1	0	8

Name	AA	NA	AD
Tactical Bomber			
Bloch 174	(10)	3	10
Potez 63			
Germany			
Air Defense			
2 FlaK38(4)	7	1	6
3.7 FlaK36	7	1	6
8.8 FlaK 18	10	2	6
Ostwind I	9	1	16
SdKfz 6/2	6	1	14
Anti-Tank			
3.7 PaK35/36	0	1	8
5 PaK38	0	1	8
7.5 PaK40	0	1	8
8.8 FK18 ATG	10	2	8
PaK43/41	0	1	8
Hetzer	1	1	8
JadgPanther	0	4	11
JadgTiger	0	6	14
Jadgpanzer 38	1	3	8
Jadfpz IV/48	0	1	9
Jadgpz IV/70	0	3	9
Jp Elephant	0	4	12
Marder II	1	1	6
Marder IIIH	0	1	6
Marder IIIM	0	1	6
Nashorn	1	4	6
PzJager IB	0	1	6
StuGIIIF	1	1	8

Name	AA	NA	AD
StuGIIIF/8	1	1	9
StuGIIIG	1	1	9
Anti-Aircraft			
37 FlakPz IV	9	1	14
FlaKPz 38(t)	7	1	12
SdKfz 10/4	8	0	12
SdKfz 7/1	11	1	16
Wirbelwind	11	1	14
Artillery			
10.5 leFH 18	0	1	6
15 sFH 18	0	1	6
17K18	0	6	6
7.5 leFk 16nA	0	1	6
Hummel	0	1	6
StuGIIIb	0	1	8
StuG IV	1	1	8
StuH42	1	1	9
Wespe	1	1	6
sIG 38(t)M	1	1	6
sIG IB	0	1	6
sIG II	0	1	6
Fighter			
BF 109e	14	1	10
BF 109f	12	1	12
BF 109g	14	1	12
BF 109k	16	1	14
Do335	28	1	17
FW190a	20	1	14
FW190d9	24	1	15

Name	AA	NA	AD
HE162	36	2	16
HE219	18	2	12
ME163B/Komet	24	2	6
ME262A1	32	2	17
Infantry			
39 Wehr Inf	0	1	7
40 LuftW FJ	0	1	7
40 Wehr HW	1	1	8
43 LuftW FJ	0	1	7
43 Wehr HW	1	1	8
43 Wehr Inf	0	1	7
Bridge Eng	1	1	8
Pioniere Inf	1	1	8
Land Transport			
Opel 6700	0	1	0
SPW 250/1	1	1	0
SPW 251/1	1	1	0
Level Bomber			
Do17z	8	3	8
Do217e	10	3	10
He177a	12	16	12
He111 H2	8	14	8
Ju188a	12	14	10
Ju88a	11	14	9
Recon			
Lynx	0	1	9
PSW 222/4r	2	1	6
PSW 231/6r	0	1	7

Name	AA	NA	AD
PSW 232/8r	0	1	7
PSW 233/8r	0	1	6
PSW 234/1-8r	2	1	6
PSW 234/2-8r	0	1	8
Tactical Bomber			
BF 110c	8	2	8
BF 110d	8	2	8
BF 110e	8	3	8
BF 110g	10	3	8
FW190f	18	2	15
FW190g	16	3	14
JU87B	(4)	5	4
JU87D	(6)	6	6
JU87R	(4)	5	4
ME210c	10	3	10
ME410a	12	3	10
Tank			
Panther A	1	3	9
Panther D	0	3	9
Panther G	1	3	10
Pz 35(t)	0	1	8
Pz38(t)A	0	1	8
Pz38(t)F	0	1	9
Pz38(t)G	0	1	8
PzIA	0	1	7
PzIB	0	1	7
PzIIA	0	1	8
PzIID	0	1	9
PzIIF	0	1	8
PzIIIE	0	1	9

Name	AA	NA	AD
PzIIIG	0	1	9
PzIIIH	0	1	9
PzIIIJ	0	1	9
PzIIIN	1	1	9
PzIVD	0	1	8
PzIVF2	0	1	8
PzIVG	0	1	8
PzIVH	0	1	8
PzIVJ	1	1	9
Tiger I	0	2	11
Tiger II	1	4	14

Greece

Anti-Tank

37mm ATG	0	1	8

Artillery

75mm Gun	0	1	6

Infantry

Greek Inf	0	0	7

Hungary

Anti-Tank

3.7 PaK35/36	0	1	8

Artillery

7.5 leFk 16nA	0	1	6

Infantry

Hungarian Inf	0	0	7

Name	AA	NA	AD
Land Transport			
Opel 6700	0	1	0
Italy			
Air Defense			
75mm SPAD	9	0	5
Anti-Tank			
47mm ATG	0	1	8
90mm Breda	10	2	5
Sem L-47	0	0	6
Sem M-41M	0	2	6
Sem M-42	1	0	9
Artillery			
105mm Gun	0	1	6
155mm Gun	0	1	6
75mm Gun	0	1	6
Sem M-40	1	0	8
Sem M-42M	1	0	9
Fighter			
Centauro	14	1	14
Ma C202/F	12	1	10
Ma C205/O	15	1	13
Re2000/F1	8	1	8
Re2005/S	14	2	13
Infantry			
Bersglri	0	0	8
Infantry	0	0	7

Name	AA	NA	AD
Land Transport			
Fiat Truck	0	0	0
Level Bomber			
CA309	4	3	4
P108 Bi	12	16	12
Recon			
AB-40	0	0	6
AB-41	1	0	7
Tacticle Bomber			
BA65	(4)	3	4
Tank			
L6/40	0	0	7
M13/40	1	0	9
M14/41	1	0	9
M15/42	1	0	9

Netherlands

Anti-Tank			
37mm ATG	0	1	8
Artillery			
75mm Gun	0	1	6
Fighter			
CR42	6	1	6
F-DXX1	6	1	8
PZLP24	8	1	8

Name	AA	NA	AD
Infantry			
Infantry	0	1	7
Norway			
Air Defense			
40mm AD	8	1	6
Artillery			
75mm Gun	0	1	6
Fighter			
F-DXXIII	10	1	8
Infantry			
Infantry	0	1	7
Poland			
Anti-Tank			
37mm ATG	0	1	8
6 Pdr ATG	0	1	8
Artillery			
75mm Gun	0	1	6
25 Pdr	0	1	6
6" Gun	0	1	6
Fighter			
PZL P11c	6	1	6
PZL P24g	8	1	8
Infantry			
Infantry	0	0	7

Name	AA	NA	AD
Paratroops	1	0	8
Cavalry	0	1	5
Infantry	0	1	7
Land Transport			
Truck	0	1	0
Bren Ca	0	1	0
Truck	0	1	0
Recon			
M8 LAC	2	0	6
Tactical Bomber			
PZL P23b	(6)	3	6
PZL P37b	(6)	3	6
Tank			
M5 Stuart	0	1	9
Sherman	1	1	9
7TP	0	1	7
TK3	0	1	7

Rumania

Anti-Tank			
3.7 PaK35/36	0	1	8
Artillery			
7.5 leFK	0	1	6
Infantry			
Rumanian Inf	0	0	7

Name	AA	NA	AD
Land Transport			
Opel 6700	0	1	0
United Kingdom			
Air Defense			
3" AD	9	1	6
40mm AD	8	1	6
40mm SPAD	8	1	6
Anti-Aircraft			
20mm SPAA	6	1	6
Anti-Tank			
17 Pdr ATG	0	3	8
2 Pdr ATG	0	1	8
6 Pdr ATG	0	1	8
Achilles	1	3	6
Archer	0	2	6
Artillery			
25 Pdr Gun	0	1	6
5.5" Gun	0	1	6
6" Gun	0	1	6
7.2" Gun	0	6	6
M7 Priest	1	1	6
Sexton	1	1	8
Fighter			
Hur I	10	1	10
Meteor III	28	1	16
Spit I	12	1	10
Spit II	12	1	12

Name	AA	NA	AD
Spit IX	16	1	14
Spit VB	14	1	12
Spit XIV	20	1	14
Spit XVII	22	1	15
Infantry			
Bridge Eng	2	0	8
HW Inf 39	1	1	8
HW Inf 43	1	0	8
Inf 39	0	0	7
Inf 43	0	0	7
Para 39	1	1	8
Para 43	1	0	8
Land Transport			
3 Tn Lorry	0	1	0
Bren Ca	0	1	0
Ram Kg	2	1	0
Level Bomber			
Lancaster	11	3	11
Stir MkI	8	3	6
Recon			
AEC I	0	1	7
AEC II	0	1	7
AEC III	0	1	7
Daimler SC	1	1	8
Humber SC	0	1	8
Tactical Bomber			
Blen MKI	(6)	3	6
Blen MKIV	(8)	3	8

Name	AA	NA	AD
Hur IID	6	3	8
Hur IV	6	2	10
Mosq VI	14	3	14
Typhoon IB	14	2	12
Tank			
Chal A30	0	3	8
Church III	0	1	9
Church IV	0	1	9
Church VI	0	1	9
Church VII	0	1	11
Comet	0	2	1
Crdr I	1	1	7
Crdr II	1	1	8
Crdr III	0	1	8
Crom IV	0	1	7
Crom VI	0	1	8
Crom VII	0	1	8
Grant	0	1	8
M3 Stuart	1	0	8
M5 Stuart	0	1	9
Matilda I	0	0	8
Matilda II	1	1	9
Mk I A9	1	1	7
Mk III A13	1	1	7
Sh Firefly	0	3	9
Sherman	1	1	9
United States			
Air Defense			
3" AD	9	1	6

Name	AA	NA	AD
40mm AD	8	1	6
90mm AD	10	2	6
Anti-Aircraft			
M15A1 MGMC	8	0	12
M16 MGMC	12	0	14
Anti-Tank			
3" ATG	0	0	8
37mm ATG	0	0	8
57mm ATG	0	0	8
M10	2	1	6
M18	2	1	6
M36	2	3	6
Artillery			
105mm Gun	0	0	6
155mm Gun	0	2	6
75mm Gun	0	0	6
8" Gun	0	6	6
M12 GMC	0	3	6
M3 GMC	2	0	6
M4A3 (105)	2	0	9
M7	2	0	6
M8 HMC	2	0	6
Fighter			
P38 Ltng	16	3	14
P40 Whwk	10	0	10
P47B Tbolt	14	0	14
P47D Tbolt	16	2	14
P47N Tbolt	20	3	16

Name	AA	NA	AD
P51B Mustg	18	0	14
P751D Mustg	20	0	14
P51H Mustg	24	0	15
Infantry			
Bridge Eng	1	1	9
Eng 41	1	1	9
Eng 43	1	1	9
Inf 41	0	0	9
Inf 43	0	0	9
Inf HW 41	2	0	11
Inf HW 43	2	0	11
Para 41	1	0	10
Para 43	1	0	10
Rangers 43	1	0	10
Land Transport			
GM Truck	0	0	0
M2 Halftrk	6	1	1
Level Bomber			
B17F FF	12	3	14
B17G FF	14	3	14
B24D Lib	10	3	12
B29 SF	20	3	16
B32 Dom	14	3	14
Recon			
M24	2	0	8
M20 LAC	2	0	6
M8 LAC	2	0	6

Name	AA	NA	AD
Tactical Bomber			
A26 Inv	(14)	5	13
B25B Mitch	(6)	3	10
B25H Mitch	(10)	10	10
B26C Mitch	(12)	5	10
Tank			
M26	2	3	9
M2A4	1	0	8
M3	1	0	8
M4	2	0	9
M4A1	2	0	9
M4A1(76)W	2	1	9
M4A3	2	0	9
M4A3(76)W	2	1	9
M4A3E2	2	0	9
M4A3E2(76)	2	1	9
M5	1	0	8
U.S.S.R.			
Air Defense			
7.6cm AD	9	1	6
Anti-Aircraft			
Z25mm SPAA	7	1	6
Anti-Tank			
45mm ATG	0	1	8
57mm ATG	0	1	8
76mm ATG	0	1	8
ISU-122	1	4	14
ISU-152 AT	1	1	11

Name	AA	NA	AD
SU-100	0	4	10
SU-152 AT	0	1	13
SU-85	0	1	10
Artillery			
12.2cm Gun	0	1	6
15.2cm Gun	0	1	6
ISU-152	1	1	11
SU-122	0	1	10
SU-152	0	1	13
Fighter			
I-16	8	1	6
La-3	10	1	8
La-5	10	1	10
La-7	16	1	12
MiG-3	10	1	10
YaK-1	10	1	10
YaK-1M	10	1	12
YaK-7B	10	1	12
YaK-9	12	1	13
YaK-9M	12	1	13
Infantry			
Partisans	0	1	7
Bridge Eng	1	1	7
Cavelry	0	1	7
Infantry	0	1	7
Paratroops	1	1	8
SMG Inf	0	0	7

Name	AA	NA	AD
Level Bomber			
Il-4	6	14	8
Land Transport			
Truck	0	1	0
Recon			
BA-10	0	1	7
BA-64	1	1	6
Tactical Bomber			
Il-10	(8)	2	12
Il-2	(8)	2	10
Il-2M3	(8)	2	10
PE-2	(8)	12	8
PE-8	6	3	12
Tank			
BT-5	0	1	8
BT-7	0	1	8
IS-2	0	4	12
KV-1/39	0	1	14
KV-1/41	0	1	13
KV-1/42	1	1	14
KV-2	0	1	14
KV-85	0	1	12
T-28M1	0	1	10
T-34/40	0	1	10
T-34/41	0	1	9
T-34/43	0	1	10
T-34/85	0	1	10
T-40	0	1	7

Name	AA	NA	AD
T-60	0	1	7
T-70	3	1	8

Yugoslavia

Anti-Tank

37mm ATG	0	1	8

Artillery

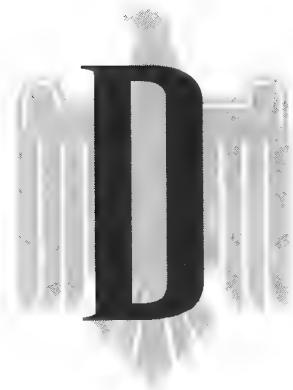
75mm Gun	0	1	6

Infantry

Partisans	0	1	7
Yugoslav Inf	0	0	7

Land Transport

Truck	0	1	0

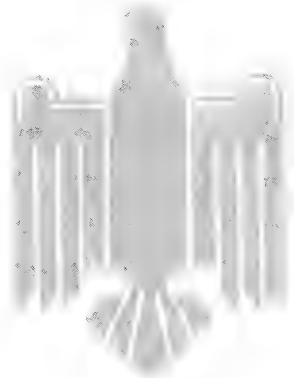


Appendix

Transport Values by Scenario

Scenario	Axis Air	Allied Air	Axis Naval	Allied Naval
Poland	0	0	0	0
Warsaw	2	0	0	0
Norway	3	1	26	4
Low Countries	3	0	0	0
France	3	0	0	0
Sealion (40)	4	1	68	3
North Africa	3	3	1	1
Middle East	3	3	0	0
El Alamein	3	3	1	1
Caucasus	3	2	0	1
Sealion (43)	4	1	75	3
Torch	3	3	4	4
Husky	3	5	4	60
Anzio	3	3	3	12
D-Day	2	4	0	100
Anvil	2	4	0	80

Ardennes	1	1	0	0
Cobra	3	3	0	0
Market-Garden	3	6	0	0
Berlin (West)	3	6	0	4
Balkans	3	1	3	3
Crete	10	2	80	2
Barbarossa	1	1	0	0
Kiev	3	1	0	0
Moscow (41)	3	2	0	0
Sevastopol	3	2	0	0
Moscow (42)	3	2	0	0
Stalingrad	3	2	0	1
Kharkov	3	1	0	0
Kursk	4	4	0	0
Moscow (43)	3	2	0	0
Byelorussia	0	2	0	0
Budapest	3	3	0	0
Berlin (East)	1	1	0	0
Berlin	3	4	0	4
Washington	4	4	70	0
Early Moscow	3	2	0	0
Sealion Plus	4	2	68	3



Glossary and Bibliography

Glossary

"The only thing harder than getting a new idea into the military mind is to get an old one out."
— Basil Henry Liddell Hart, *Thoughts on War,* 1944

For the new computer generals in our ranks, we offer this glossary. The military has its own vernacular, which is commonly shared by those who enjoy military games such as Panzer General. Because we often utilize this lexicon in this book, we want to make our meanings clear.

AFV Acronym for armored fighting vehicle. This generic reference represents any kind of tank, assault gun, self-propelled artillery, half-track, etc.

AIR DEFENSE A unit used exclusively for shooting at enemy aircraft operating within their firing radius, making them handy near targets that are likely to be bombed. They generally have a bracketed soft and hard attack factor, meaning that they can return fire only at enemy ground units that attack them.

AIR SUPERIORITY A condition in which one side of a conflict enjoys sufficient numerical superiority in the air as to be able to operate with minimal risk of intercept.

AIR SUPREMACY A condition in which one side of a conflict has eliminated the enemy air force as a viable battlefield asset. The side that attains air supremacy can operate with impunity in the skies above the battlefield.

AMBUSH A tactical situation in which one unit emerges from a concealed position to conduct a surprise attack on a moving enemy formation.

ANTI-AIRCRAFT Although this unit has a decent air-attack strength, it tends to have a range of zero, meaning that it has to drive right under an enemy airplane in order to shoot at it. However, it can attack enemy land units too (although it should be used only in a pinch), and its survivability in combat with ground troops is better than that of air defense units.

ARTILLERY A collective group of ranged weaponry that employs a ballistic trajectory to engage its targets instead of firing line of sight. Types or artillery include towed field guns, mortars, assault guns, and so forth.

ASSAULT GUNS A type of self-propelled artillery unit with a range of one and a high initiative rating. This unit is extremely valuable in conducting a strategic defense.

ASW Acronym for anti-submarine warfare. In Panzer General, a rating that ship units have in lieu of the close defense rating that land and air units possess.

AUXILIARY UNIT In a campaign game, a unit that is there for only this particular battle. It is not part of your core forces that go with you from battle to battle in a campaign. By its nature, it is more expendable in battle because it disappears at the end of the game anyway. This unit is differentiated from a core unit by having its strength numbers posted in white vice black.

BLITZKRIEG German for "lightning warfare." A battle plan that requires air superiority and consists of 1) bombarding enemy lines with air and artillery forces to create a breech 2) exploiting the breech with mobile armored and infantry forces, bypassing enemy strong points and encircling as many enemy units as is feasible 3) disrupting the enemy's rear areas with these exploiting units 4) air and paradrop operations to cause the enemy's remaining front-line forces to collapse from disrupted communications after being cut off from their rear areas and 5) mopping up the bypassed enemy strong points.

BOMBER A plane designed exclusively for the delivery of ordnance against ground targets, regardless of whether this delivery is accomplished from level flight or by diving at the target. This plane possesses some defensive capability against other aircraft, such as fighters, but it cannot initiate attacks against these more maneuverable assets.

CAP Acronym for combat air patrol. Fighters that conduct this mission are attempting to intercept enemy bombers and fighters entering contested airspace in proximity to friendly areas of operation.

COMBINED ARMS Military concept that encourages the use of a variety of weapon types in support of one another during a combined assault. In layman's terms, it

implies the conduct of preliminary bombardment by artillery, naval units, air power (as available), followed up by a ground assault using both armor and infantry.

CORE UNIT In a campaign game, a unit you take with you to the next battle, complete with any adjustments it might have in its experience and any campaign medals it may have won. You must preserve the quantity and quality of these troops because you will use them in your future battles. Viewed on the map, these units are indicated by the black numbers showing their strength.

D# A die roll probability range (described in the Introduction). The number is the maximum die roll, with 1 as the base. For example, a d10 means that the computer will roll a 10-sided die, generating a random number from 1 to 10.

DISMOUNTED Describes a unit not using any form of wheeled or tracked transportation.

ENGINEER UNIT A subcategory of infantry unit type that includes all engineers, bridging engineers, and German pioniere units.

FIGHTER An air unit whose primary purpose is to engage and destroy enemy aircraft. Secondary roles include escorting friendly bomber units (see CAP) and conducting air-support missions against ground targets.

FIGHTER-BOMBER Airplane type with both an unbracketed air combat strength (that is, it can initiate air-to-air combat whereas an air unit with a bracketed air combat strength cannot) and some reasonable values for its soft, hard, and naval attack strengths. Found under the Tac-Bomber listing in the unit purchase menu, examples of this type of airplane include the Bf110 series and the Me210 and 410 series. Note that Ju87 "Stuka" series planes are not considered fighter-bombers according to this definition because they cannot initiate air-to-air combat (that is, they are not really fighters).

FLANK The side of a military formation or defensive position. Because most weaponry is arranged to the front in anticipation of enemy attack, the sides are naturally weaker and easier to exploit.

HARD A target's defense type. Armored targets, including AFVs and ships, are considered "hard" targets, and units will attack them using their hard target attack strengths.

HEXES The spaces formed by the hexagonal grid superimposed on the maps. These spaces are used to regulate movement and for determining some units' firing ranges. During years of wargaming tradition, these spaces also have been referred to as "squares."

INITIATIVE A numerical rating that determines which unit will fire on the other first as they engage in combat. This value is modified by experience. The higher the initiative rating, the better, with tied rating battles resolved by both units inflicting their damage on the enemy simultaneously.

LEG A unit that is walking, rather than riding in a vehicle, to move around the map. All dismounted infantry and gun unit types, plus cavalry, can be lumped into the category of "leg" units, although pure leg units have no organic transport whatsoever. Leg units are also soft targets.

MECHANIZED Infantry units mounted on armored transports, such as half-tracks (referred to as "mechanized infantry"). Mounted in this way, they become hard targets.

MOTORIZED Infantry units mounted on truck transports and referred to as "motorized infantry." Trucks are vulnerable targets, but they can move rapidly through clear terrain and along roads.

MOUNTED Infantry units on horseback (cavalry units) and referred to as "mounted infantry." Also refers to other types of infantry or artillery that are using wheeled or tracked vehicles as a form of transportation.

OUT OF THE SUN A phrase that describes certain air units in much the same manner as "surprise contact" describes certain ground units. When a moving air unit runs into a previously unlocated enemy air unit, the latter enjoys a surprise attack with considerable bonuses.

PARTISANS Irregular, low-quality troops fighting behind enemy lines to disrupt enemy operations. At the beginning of some scenarios in Panzer General, the Allied side has a few partisan units starting behind German lines. Unfortunately, when newly purchased, partisans are initially placed like other friendly land units (on or adjacent to friendly owned cities and ports) rather than behind enemy lines.

PIONIERE German combat engineers who specialized in using flamethrowers, mines, explosives, smoke, etc. Like the American Seabees, they blew things apart and built them back up again.

PRESTIGE POINTS An abstract political and economic representation of the number of resources committed to the scenario that is being played. These points are spent to purchase new units and replace losses in depleted ones. They are gained and lost based primarily on control of objectives and casualties (see Chapter 6).

RUGGED DEFENSE A special situation in which an entrenched unit mounts an exceptionally credible defense, inflicting disproportionate casualties on the attacking unit. For a full explanation of the rules surrounding this effect, see Chapter 5.

SPA Acronym for self-propelled artillery. These artillery pieces are permanently mounted on vehicles. They might be either soft targets, if they're mounted on a truck chassis (such as the Russian rocket artillery units) or hard targets, if they're mounted on a tank or half-track chassis (which is the case for most SPA types, such as the StuG IIIb, Hummel, and Wespe).

SOFT A target's defense type. Airplanes, infantry, cavalry, guns, and truck transports are considered "soft" targets; units attack them by using their soft target attack strengths.

SQUARE Nickname for hex. A single space on a war-game board is often referred to as either a hex or a square. These terms became synonymous because, although most modern war games use a hexagonal grid on their maps, early war games and maps used by the military employ a square grid.

SURPRISE CONTACT Also known as an ambush, this condition occurs when a moving unit encounters a previously hidden adversary. The unit being ambushed suffers severe penalties in the ensuing combat round.

TANK An armored fighting vehicle that has a turret, affording it a 360-degree field of fire. You can find them in the Tanks listing in the unit purchase menu.

UNIT An individual piece in a war game that represents a military formation such as a squad, regiment, corps, or army. In Panzer General, the unit scale is somewhat amorphous, but the authors estimate that unit sizes in the game vary between regiments, brigades, and divisions.

WHERMACHT German word for the German army.

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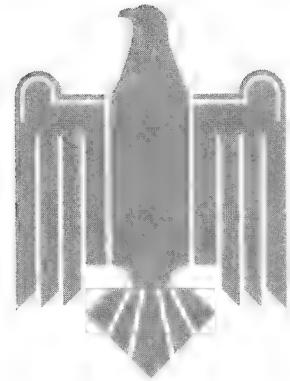

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ISBN 1-55958-727-X
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